

WEDNESDAY, NOVEMBER 15, 1871.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON TUMORS OF THE LARYNX IN CHILDREN.

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GENTLEMEN,—I regret to say that the child whom I brought before you about two weeks ago, and in whose case I diagnosed the presence of a tumor in the larynx, has died. A post-mortem examination has been made, and I wish to-day to ask your attention to the morbid appearances found. In order, however, that we may more clearly comprehend the explanation which this lesion affords of the symptoms presented by the patient, I will recall to your minds the principal points in the progress of the case.

The patient, Ellen R., a well-developed girl, 3½ years old, had suffered, five months before coming under observation, with a severe attack of measles, attended with a great deal of cough. The attack subsided, and the child seemed to be slowly convalescing, when she was seized with symptoms probably indicating an acute affection of pneumonia. She was very ill with the second attack for about two weeks, when, upon beginning to convalesce, it was noticed that her voice was very feeble. This impairment of voice steadily increased, becoming associated with difficulty of breathing, and when the child first came under my notice, two weeks ago, she was unable to speak above a whisper, while her dyspnoea was painful to witness. Each inspiration was accompanied by a loud prolonged stridulous sound. A violent effort was necessary to expand the chest, and the act was attended with a marked deepening of the supra-sternal notch and the formation of a deep depression around the base of the chest. Expiration was quiet, but much prolonged. She also suffered from paroxysms of dyspnoea occurring during the night, which were occasionally so violent as to threaten a fatal result. There was no cough accompanying the aphonia and dyspnoea. There was no difficulty in deglutition, and the finger passed deeply into the pharynx could detect no obstruction. There was no enlargement of the thyroid or cervical glands. The percussion-resonance was unimpaired in any part of the thorax; the respiratory murmur was marked by the loud laryngeal sibilus. There were no signs of disease of the heart or great vessels. The general nutrition of the child was not materially impaired, though her strength was evidently suffering severely.

Repeated and patient efforts were made by Dr. J. Solis-Cohen and myself to obtain a view of the vocal cords and interior of the larynx by means of a laryngoscope. The irritability of the throat was extreme, and every time that the mirror was placed in the fauces a violent spasm of the glottis occurred, with alarming embarrassment of breathing, so that we were obliged to desist from our efforts without having succeeded.

The first question in connection with this case which called for solution was with reference to the cause of the loss of voice and obstructed breathing. It was apparent, in the first place, that these symptoms depended upon some positive mechanical cause, and not upon a mere spasmodic contraction of the glottis. It is true that there were violent spasmodic exacerbations of the dyspnoea occurring at night, but these were merely superadded to the very marked obstruction to respiration, with loud stridor and almost complete aphonia, which was constantly present. In addition, however, to this persistence of the dyspnoea, there were two

symptoms which in particular pointed to the existence of actual mechanical obstruction of the air-passages. These were the deepening of the supra-sternal notch and the recession of the base of the thorax, which were so marked during the labored efforts at inspiration. I attach great importance to the presence or absence of these signs in any case where such obstruction of the larynx or trachea is suspected, and a moment's consideration of the conditions of respiration will make clear to you their significance and mode of production. Ordinarily, when inspiration begins, the vocal cords are separated, the calibre of the larynx and trachea is freely opened, and as the thorax is expanded by the contraction of the respiratory muscles, the air enters the lungs rapidly and freely, and thus neutralizes the atmospheric pressure upon the exterior of the chest, which tends to oppose its expansion. When, however, there is any mechanical obstruction in the larynx or trachea by which the calibre of the tube is reduced, the free entrance of air during inspiration is interfered with, and, as the powerful contractions of the respiratory muscles expand the thorax, the pressure upon the inner surface of the chest-walls is not sufficient to neutralize that upon the exterior. As a consequence, those parts of the chest-walls which have least firmness and power of resistance in themselves, as the parts about the upper opening of the thorax and the base of the chest, are forced inwards by the excessive external pressure. So that in cases of pseudo-membranous croup, of tumors of the larynx, of pressure upon the trachea by solid or aneurismal tumors, we find these symptoms of deepening of the supra-sternal notch and recession of the base of the thorax appearing during inspiration to mark the existence of a diminution in the calibre of the primary air-passages. I could not doubt, therefore, that in the case of our little patient there was, from some cause or other, such a mechanical obstruction to respiration; but the even more important question as to the precise nature and seat of this obstruction remained to be solved.

Was it, in the first place, seated within the air-passages, or was it due to some cause which acted upon the larynx or trachea from without? Clearly not the latter. The conditions which most frequently induce such pressure are aneurism of the arch of the aorta, post-pharyngeal abscess, and enlargement of the bronchial glands. The youth of the patient forbade any idea of the existence of an aneurism, and a careful examination of the heart and great vessels proved that they were free from disease. With reference to post-pharyngeal abscess, it must be remembered that the disease, although a rare one, is comparatively quite frequent in childhood, in consequence of the frequency of caries of the vertebræ during that period of life. It must be borne in mind also that caries of the vertebræ, as well as many so-called scrofulous affections in children, can be traced back to the occurrence of an attack of measles, which is perhaps more apt than any other of the exanthemata to be followed by the development of such sequelæ. When caries affects the cervical or upper dorsal vertebræ, the pus which forms between the anterior surface of the vertebral bodies and the wall of the pharynx gradually collects until it causes a distinct tumor, encroaching on the calibre of the pharynx, and, when of large size, also pressing on the trachea so as to cause great difficulty in breathing. It will be remembered, however, that, in the case we are now considering, the patient was a vigorous, healthy-looking child, without a visible trace of any scrofulous affection; and careful examination of the pharynx, both by the eye and the finger, failed to discover any bulging of the posterior wall. It must follow also that whenever a post-pharyngeal abscess exists, the interference with the

trachea must always be secondary, while the first effect will be encroachment on the œsophagus or pharynx, with consequent difficulty of deglutition. This was entirely absent in our case, so that we could safely conclude that the cause was of a different nature.

If, however, these conditions could be readily and positively discarded, the arguments in favor of the existence of enlargement of the bronchial glands causing pressure upon the trachea seemed much more powerful at first sight. This affection of the bronchial glands occurs in its best-marked form between the ages of two and six years, and in many cases is developed after the severe bronchitis which is apt to accompany measles. The enlargement may go so far as to cause strong pressure on the trachea, producing great difficulty in respiration, with prolonged wheezing or stridulous breathing. There are, however, other highly characteristic symptoms of enlargement of the bronchial glands which were entirely wanting in our case. Thus, cough of a peculiar paroxysmal character is a constant attendant. The veins of the neck are apt to be distended, and the face often becomes puffy and œdematous; and the enlarged glands come in contact with the walls of the chest, and give rise to dullness on percussion in the interscapular region, and sometimes over the middle part of the sternum. The voice may be weak, but the same remark applies here as well as to the supposition of a post-pharyngeal abscess, that any degree of pressure upon the trachea short of complete occlusion would scarcely cause such extreme aphonia as was present in our little patient. Finally, if the obstruction had been so low down as the bronchial glands, I do not think there would have been such a marked development of supra-sternal depression and retraction of the base of the chest during inspiration.

After having thus carefully considered these various points and excluded all possible causes of pressure upon the trachea from without, I found myself led to the conclusion that the cause of obstruction must depend upon conditions within the air-passages themselves.

It will be remembered here that, despite the most patient endeavors, it proved utterly impossible to obtain any view of the vocal cords or interior of the larynx by aid of a laryngoscope, so that it was necessary to depend solely upon general considerations in determining the seat and nature of the lesion. The three conditions which would most naturally suggest themselves in explanation of such a group of symptoms are—paralysis of the vocal cords; chronic inflammation of the larynx, with contraction of its calibre from swelling of the tissues, or, on the other hand, from the cicatrization of an old ulcer; and, finally, the growth of a tumor in its cavity.

The extreme degree of aphonia rendered it probable that the vocal cords were affected, and it is evident that in cases where there is palsy of their muscles the voice would be lost, while at the same time respiration would be seriously interfered with. Thus, during the act of inspiration, when the cords should be drawn apart, they would, on the contrary, be forced together by the pressure of the entering air, so as to obstruct its passage into the larynx. Hence we might have in such a case labored, difficult inspiration, with all the attendant symptoms. The difficulty of respiration would, however, of course be limited solely to the act of inspiration, and expiration would be quiet, easy, and free; whereas I have told you that in this case it was much prolonged, and evidently was obstructed. Besides this conclusive sign, it would have been quite impossible to afford any reasonable explanation of the occurrence of paralysis of the vocal cords in the present case, so that the idea of its existence had to be abandoned.

We are familiar with various forms of chronic inflammation of the larynx, with or without ulceration, as

occurring in adult life, which are capable of inducing aphonia and marked obstruction to breathing: such are the chronic catarrhal, the tuberculous, and, most especially, the syphilitic. All of these are, however, extremely rare in children; and the mode of inception and symptoms of the disease in the present case precluded the idea that it was of any such nature. It occasionally happens, however, that a severe form of secondary croup, attended with ulceration and pseudo-membranous exudation, occurs as a sequel of measles; and, though the course of this affection is generally acute and terminates either in recovery or death, it is possible that the acute symptoms might subside, leaving a considerable amount of ulcerative destruction of the mucous membrane, so that as cicatrization occurred there would be progressive loss of voice and interference with breathing.

I say that this might occur; and, though I do not believe it could lead to such extreme aphonia and dyspnoea as were here present, I dwell upon it because I know no single symptom by which such a condition could be diagnosed from gradual obstruction of the larynx from the growth of a tumor. You might expect that aid is to be drawn from a consideration of the mode of origin of the symptoms and from laryngoscopic examination. Unfortunately, however, the use of the laryngoscope is often impossible in the case of young children. Even where there is no morbid sensitiveness of the parts, the narrowness of the fauces and the rapid accumulation of mucus render it difficult to obtain a view of the vocal cords and interior of the larynx. Every effort should be made, however, to succeed. If time allows, the child should be patiently taught to tolerate the presence of the faucial mirror; but, even after frequently-repeated trials, failure to make a thorough examination will often result, as it did in this case. Nor can we always hope for valuable aid from the history of the case. It is true that if, without the occurrence of any previous disease, and without symptoms of laryngitis being present, evidences of laryngeal obstruction gradually appear, and increase until there are marked weakness of voice and labored respiration, attended with occasional spells of spasmodic dyspnoea, we may confidently assert the existence of a tumor. But, on the other hand, we can by no means exclude the idea of a laryngeal tumor because the symptoms have made their appearance after an attack of some acute disease attended with symptoms of laryngeal irritation. Thus, in a case on record (Transactions of the Pathological Society of London, vol. ix. p. 55, Case No. 6 in tabulated list in Holmes' Surgical Treatment of Children's Diseases, p. 307, 2d ed., Philadelphia, 1869), the alteration of voice followed an attack of measles, and yet at the post-mortem examination the cause of obstruction was found to be a villous tumor attached between the vocal cords.

You will comprehend, therefore, how difficult is the diagnosis between chronic laryngitis and laryngeal tumor in cases where, owing to the extreme youth of the patient, laryngoscopy is impossible. Nevertheless, you will in some cases be able to form a correct opinion even without the aid of this invaluable means of diagnosis. A study of the mode of origin has some value, as we have seen. The absence of cough, of expectoration of muco-purulent matter, of tenderness over the larynx,—the gradual progressive development of the symptoms, without exacerbations from intercurrent catarrhal attacks,—all point to the existence of a tumor. It was chiefly by a careful review of these considerations that I was led to believe that the symptoms in my patient's case were due to the gradual growth of a tumor in connection with the vocal cords.

There is one further symptom occasionally noted in cases of tumor of the larynx, and which when present

is of marked diagnostic value. I allude to the fact that in some cases the symptoms of obstruction almost or quite disappear in the intervals of the spasmodic attacks of dyspnoea. This occurrence, which never takes place when the obstruction is due to chronic ulcerative changes, would seem to be capable of explanation only on the supposition that the tumor is attached by a pedicle, allowing it a certain degree of motion, so that at times it may become engaged in the glottis and thus induce a frightful paroxysm of dyspnoea, and then again, after a short time, fall back into its ordinary position, where it would give rise to but slight obstruction.

I will in the concluding part of this lecture complete the history of this patient, and discuss the treatment to be adopted in such cases.

(To be concluded.)

ORIGINAL COMMUNICATIONS.

ON PUERPERAL ECLAMPSIA.

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THE following cases have been selected from my note-book, as typical ones, in illustration of the positions that were taken with respect to puerperal eclampsia in an article I published in the *American Journal of the Medical Sciences*, April, 1871. In that paper a full review of the knowledge possessed upon the subject, gathered from every available source, was given, and from it will be drawn in the present communication the materials constituting the remarks elicited by an examination of the features of these cases. They are now reported as the text for illustration of the conclusions arrived at in the paper to which reference has been made.

Mrs. L., the wife of a physician, aged 27, of delicate, anæmic constitution, and with tendency to affection of the lungs, was pregnant with her first child in 1858. When the seventh month of pregnancy had arrived, it was noticed by her husband that her lower limbs were much swollen, but in other respects her general condition did not present any unusual features. I was not called to see her until the eighth month, when the urine was found to contain albumen largely, and to have the specific gravity of 1017.

On the 10th of November (the beginning of the ninth month, as nearly as could be ascertained) I found that the dropsical swelling was rather increasing, but that she complained of little uneasiness, except confusion of head when long occupied in sewing: this occupation was interdicted. Although her urine appeared to be in usual quantity, some sweet spirit of nitre was directed, and her bowels to be kept regular by Saratoga water.

On the morning of November 18th I was called to see her in labor, which had commenced in the night with the discharge of the liquor amnii. Her husband stated that she had been apparently well for the last few days, with the exception of some shooting pain in the forehead and a little confusion, which passed off in a few minutes. He had administered a Seidlitz-powder. I found that she was perfectly calm, with an unaccelerated pulse, and that her pains were of a forcing character, at intervals of ten minutes. On examination, I found the os uteri well dilated and the nates of the child presenting, the left foot a little in advance of the scrotal tumor.

At 12 M. the labor was proceeding well, the child having descended so as almost to reach the perineum and distend it, with fair propulsive effort of the uterus. There was no complaint of the head or premonitory symptom of convulsions.

At 12½ P.M., when the child fairly distended the perineum, she became pale, swooned, and was seized with a violent con-

vulsion. It was deemed expedient, when the convulsion had subsided, to hasten delivery by traction with the finger in the groin of the child, by which I succeeded in delivering the nates; the body and arms soon followed. At this stage another convulsion came on, in the midst of which I succeeded in getting the narrow blade of a vectis above the head and bringing it away. The child was born in a state of asphyxia, but after a short time respiration was established, and it did well.

The after-birth was removed without difficulty.

After delivery the convulsions returned every twenty minutes for three hours, lasting a few minutes, with a soporose interval, the return to consciousness being the precursor of the convulsive attack, and its approach being preceded by the clearing of the circulation of the face and head and a return of the arterialized condition of the blood. When the convulsions terminated in congestion of the brain, with the livid fulness of the vessels of the head and face, the smoke-pipe motion of the mouth, with stertor, was an attendant. Immediately preceding the invasion of the convulsions, the countenance became pale, and the pulse, from being quick and feeble, was almost lost. The skin was cold. Some hemorrhage had followed the separation of the placenta, which told on the circulation.

The treatment consisted of stimulants to the external surface, dry cups upon the temples and behind the ears, and cold to the head. After the cupping a blister was applied to the nape of the neck, and thirty drops of tincture of opium and a fluidrachm of tincture of assafoetida in half a fluidounce of water were thrown into the rectum. This was repeated.

At 5 P.M. the interval between the convulsive attacks was prolonged to one hour. Exhaustion then being a prominent condition, and as the patient could not swallow, it was determined to throw into the bowels a nutritive and stimulating injection: accordingly, a fluidounce of chicken-soup, a dessert-spoonful of sherry wine, and a grain and a half of sulphate of quinia were administered. This was repeated every hour.

At 9 P.M. the interval had extended to two hours. The blister on the back of the neck had drawn fairly. At 11 P.M. the last convulsion took place, after which the patient, although unconscious, was very restless: this latter state being attributed to distention of the bladder, it was relieved by the catheter. The urine had the specific gravity of 1017. It formed a thick coagulum of albumen by heat, and on examination for urea yielded Urea .

November 19, 10 A.M.—The patient, after the last convulsion and relief to the bladder, slept soundly and naturally, which continued through the early morning. She has now returned to partial consciousness and taken some nourishment. Pulse 93, and weak. Skin warm. Nourishment and stimulants directed.

November 20.—Passed a good night. Consciousness perfect. Pulse 93, with more force than yesterday. Skin warm. Complaints of being weak, and says she is a little confused in thought and recollects nothing that has passed. Limbs sore. Urine passed by catheter. Nourishment maintained.

November 21.—Slept well; is perfectly rational and composed. Pulse good,—86. A large quantity of urine was drawn off by catheter. Complaints of the blister and of soreness in her limbs, from which the dropsical effusion is disappearing. Urine free from albumen; specific gravity 1013. Some show of secretion of milk.

This lady gradually recovered under the use of nourishment and tonics. The dropsical effusion totally disappeared. She never, however, became robust, and in a few years her pulmonary tendency terminated in phthisis, of which she died.

Mrs. —, æt. 33, of delicate constitution, the mother of five children, has always had easy labors, but on three occasions has suffered from febrile disturbance in connection with the establishment of lactation, and some derangement of the alimentary canal. These attacks readily yielded to mild treatment.

During the years 1862 and 1863 she was subjected to much anxiety in connection with her husband, who, as an officer of the army, incurred great personal risk. She also, in the summer of the latter year, was forced to undergo the fatigue of nursing him through an alarming illness, so that through the winter of 1864 her health was decidedly impaired; she

also had a miscarriage, from which she lost a considerable amount of blood. The tendency was to dropsical effusion.

In 1865 she again became pregnant, and on November 8th was confined, having her usual speedy labor, and apparently doing well until the 20th (the twelfth day after confinement), when, having risen in the morning and expressing herself as perfectly comfortable and happy at her favorable recovery, she was seized at noon with confusion of ideas, inability to articulate, cold extremities, and pallor of countenance, which terminated in convulsions and the occurrence of insensibility, which continued until six o'clock of the morning of the 21st.

At 10 A.M., November 21, I found her in the following condition: conscious so as to recognize me with a smile, but unable to express herself, answering questions by a nod or shake of the head: her intellect was evidently confused. She complained of pain in the head; face somewhat flushed in contrast with her usual pallor; pupils obedient to the light and perfectly equal; could not protrude the tongue, but no paralysis of it or of her face and limbs; pulse 120, soft and feeble. Passes her water freely, and has an inclination to go to stool. Has been once up in the endeavor. Examined the urine, and found it highly charged with albumen.

November 22.—Pulse 120, soft. Intelligence improved; can answer questions by motion of the head with more comprehension of them than yesterday; still unable to articulate. Skin moist. Pupils dilated, but equal. Face has lost its flush,—a little puffy,—and no headache. Tongue very foul. Great desire for drinks. At 3 P.M., hemiplegia was evident. She could not raise or command the right arm or leg. Nourishing diet in the form of meat-essences was allowed, and small doses of calomel (one-fourth of a grain every three hours) were directed, with mild diuretic salines.

November 24.—Intelligence a little better; she manifests emotion at the restriction of her drinks and diet, which are kept within proper limits for fear of rejection by the stomach; in recognizing her attendants, she manifests pleasure by pressure of their hands with her own left hand; says she has a little headache, when interrogated with respect to it, by an affirmative nod of the head, but its extent cannot be ascertained. Face a little flushed. Pupils a little dilated; not unequal. No attempt at articulation, and the effort to protrude the tongue is not made, although she can open widely her mouth. Tongue furred, but less so than at last visit. Skin pleasant. Pulse less frequent, 110, soft. Cannot move her right arm any better, but moves the corresponding leg. Passes urine freely. Bowels freely moved several times, the dejections being very dark and offensive. This was undoubtedly due to the calomel, which on the first movement of the bowels was stopped. The same diet was continued, and sherry wine and water allowed as drink. Ten grains of benzoic acid were ordered every three hours, as the urine still continues albuminous.

December 2.—Intelligence much improved; able to indicate her wants, and desirous of having her clothing entirely changed. Upon the baby being presented to her, fondled it in her arms and raised it in the air. Her power of speech has not returned, except to lisp 'yes' or 'no' in reply to questions. Skin soft. Pulse natural in frequency, except when quickened by emotion. The tongue is clean, the bowels are regular, and the urine free from albumen. Paralysis of arm and leg not perceptible, as she can use her limbs in moving and turning. Since the 29th of November, has been under the use of tincture of iron with sweet spirit of nitre, and elixir of calisaya bark, with half a grain of sulphate of quinia in each dose, three times daily.

This lady slowly recovered, although the aphasia continued for a long time, when her speech remained slow and deliberate, rather than hesitating and interrupted.

Remarks.—The features of the first of these cases which attract our attention are that the subject was delicate and anæmic, that she labored under albuminuria two months at least before delivery, and that dropsical effusion had occurred. In the second case there had been dropsy, and it is to be presumed that her urine was albuminous when labor occurred, as it was found subsequently to be.

The association of albuminuria and dropsy in preg-

nancy, as well as under other circumstances, is a fact now well understood by the profession. Dropsy was noticed as early as 1800 by Dr. Hamilton, of Edinburgh, and this observation was confirmed by other observers, as by Demarret in France and Burns in England. It was first noticed by Dr. Norman Lyman in this country in 1824. The existence of albumen in the urine in dropsies had been pointed out by Dr. Blackall some years before the researches of Dr. Bright which led to the recognition of the condition of the kidneys since known by the name of that distinguished pathologist.

The occurrence of convulsions with albuminuria was noticed by Dr. Bright, who in his account of the disease reported five cases. The connection between albuminuria and puerperal convulsions with dropsy as a concomitant was first distinctly stated by Dr. Lever, in 1843, and in this he was supported by Dr. Simpson, of Edinburgh. Dr. Lever called his cases by the name of "anæmic convulsions." It is clear, then, that our cases come into the same category. As albuminuria disappears, in most of the cases of pregnancy, when labor has taken place, it must be admitted that the cause of albumen in the urine, except when real disease of the kidneys exists, is that pointed out by Mr. Robinson and Dr. Brown-Séquard,—viz., the obstacle to the return of blood from the kidneys presented by the gravid uterus,—and that the cause of the dropsy is the still greater impoverishment of anæmic blood by the loss of albumen.

There evidently existed in these cases the condition most favorable to the occurrence of convulsions,—an anæmic state of the nervous centre, more particularly of the excitable motor tract. This condition has been called by Wigand "*convulsibility*," and by Dr. W. Tyler Smith "*convulsive erethismus*." It has been well portrayed by Dr. Marshall Hall, and recognized by other observers, as depending on impaired nutrition. An anæmic condition of the sanguine system, by which nutrition of the nervous centres is not fully maintained, may be considered as a primary cause of inordinate susceptibility to the impression of remote influences. This anæmia, irrespective of its being a state peculiar to pregnancy, may be so increased, in an individual already laboring under it, as to produce inordinate liability to abnormal disturbances, as is shown in the case of direct loss of blood, or in what is closely allied to it,—the long-continued discharge of albumen through the kidneys. Albuminuria is so closely allied to hemorrhage that it may properly be placed in this class of affections.

The immediate cause of the convulsive movements in the first case may be regarded as the reflex action from the perineum. Although the eccentric origin of puerperal convulsions has been surmised by able practitioners, as Drs. Robert Lee, Ramsbotham, Churchill, and Locock, this origin has by no writer been so intelligently applied and illustrated as by Dr. W. Tyler Smith. The sources of convulsions induced through reflex action that have been enumerated by Dr. Smith are the irritation of the uterus connected with gestation or labor, the irritation of the hand in the uterus, the pressure upon and distention of the vagina during the passage of the child, the distention of the os externum, and the irritation to any of these parts from the use of instruments. Reflex action may also be engendered from the stomach, the bowels, or the bladder.

Another feature of these cases was the absence of premonitory cerebral symptoms. The attack of convulsions was preceded by paleness of the face, swooning, and loss of consciousness, indicative of a failure of supply of blood to the brain. Although precursory symptoms do precede convulsions in many cases, it is not an invariable rule that they should be manifested

There may be, for some time preceding delivery, headache and throbbing, giddiness and flushing of the face, with a rapid or even a tense pulse, which symptoms are as much the result of an anæmic condition of the system as of a plethoric one. The true nature of these symptoms has been admirably set forth by Dr. M. Hall, and, as stated by Dr. W. Tyler Smith, "they are the signs of what may be termed the convulsive erethismus."

Until within a comparatively recent period the doctrine taught by obstetrical writers was that convulsions were of a sthenic character, and that they were produced by determination of blood to the brain. Smellie, Burns, Merriman, Blundel, Rigby, and Churchill, as well as Dewees and Meigs, all proclaimed this doctrine with respect to puerperal convulsions, while Solly argued that such was the cause of convulsions generally. The experiments of Burrows have placed this, however, in its true light, and shown that determination of blood to the head is productive of oppression, stupor, and coma,—symptoms of inordinate pressure and fulness within the brain which are not compatible with convulsions. Dr. Denman saw the fallacy of attributing convulsions to a fulness of the vessels of the head, and expressed himself thus: "This opinion applies to a cause very general indeed, and, if true, must have had its effects so generally as not to remain in doubt. But they [*i.e.* convulsions] sometimes first come on or continue with equal violence after the birth of the child, when the presumed cause is removed." The cases reported certainly are not illustrative of determination of blood to the head as the cause of convulsion.

That convulsions do not originate in plethora or from determination of blood to the brain was known to Hippocrates, who refers to convulsions, after labor, from hemorrhage. It was also the teaching of that wise physiologist Fontana; and yet it has been asserted that they occur from fulness of the vessels of the head in the face of these statements, and, more recently, of the experiments of Sir Astley Cooper, who by tying the carotids and compressing the vertebral arteries brought on convulsions in animals as an inevitable result. Such occurrence has been the result of tying the carotid artery in man. The effects of hemorrhage in occasioning convulsions have recently been investigated by Kussmaul and Tenner. In their interesting experiments upon animals, it was found in every instance that the substance of the brain, as well as of the medulla oblongata and the upper part of the spinal cord, was deprived of blood, the cut surfaces being without blood-spots, and the arteries of the cranium empty.

The resemblance of puerperal convulsions to epilepsy cannot but be apparent to all observers. Dr. M. Hall states that "this convulsion itself resembles epilepsy." Trousseau has boldly expressed the opinion that no difference exists between eclampsia and epilepsy. For an analysis of the phenomena of epilepsy the medical inquirer can turn to no authority with more satisfaction than to the treatise of Dr. Radcliffe; he is the first author who has traced out with precision the successive stages of epileptic convulsions and the connection between these stages and the state of the nervous centres, the circulation, and the respiration.

The first symptoms to be noticed in the attack of convulsions are pallor of the countenance, depression if not actual loss of pulse, loss of consciousness, and syncope. The convulsive movements commence in the muscles of the eyes, of the face, of the throat, and finally extend to the entire system. From the time that the muscles of the throat, involving the larynx (laryngismus of Dr. Hall), are involved, the face becomes livid, the minute vessels are swollen and finally cyanosed, the eyes and the lips assume a purplish hue, and gradually asphyxia is established, with less and less of

convulsive movement, until this disappears under the engorgement of the brain with black blood. The subject of the fit is then comatose. The pulse, which had been depressed or lost in the first stage, becomes more perceptible as the convulsions proceed, rapid at first, and full and slow as coma is established. As the blood, which had been thoroughly venous and charged with carbonic acid, regains oxygen, the symptoms of asphyxia disappear, and the brain, as it is relieved from pressure, regains its wonted activity; there is then a return to consciousness. It would appear from the course pursued by them that convulsions are self-limited; and we can agree with the statement of Robin "that the attack itself originates a cause which puts an end to it, and allows it only a short duration." The convulsion is cured by a species of *natural narcotism*. In the first of the cases reported, the above were clearly the phenomena presented. Whenever there was full oxygenation of the blood, with a restoration of color in the face and a return of consciousness, it was the precursor of a renewed attack, with precisely the same series of events. It is probable that continued recurrence of the attacks arose from the additional exhaustion attendant upon loss of blood after delivery of the placenta.

The question now arises, Does the reflex influence, from whatever source generated, operate directly upon the muscular system through the sensory (excitor) and motor tracts of the brain and spinal marrow, as in the case of twitches produced in a limb by pinching the peripheral nerves, or does it act through the medium of some organ or structural apparatus which controls the nervous system and thus indirectly leads to the occurrence of convulsions? Keeping in view the influence of reflex action, we have presented to us the phenomena of paleness of the face, loss of consciousness, and syncope, which are dependent on suspension of the circulation of the brain, a result that must come either from stoppage of the movements of the heart, or from contraction of the capillary arteries of the brain itself. The occurrence of convulsions by direct pressure upon the vessels furnishing blood to the brain, as in the experiments of Sir Astley Cooper and Kussmaul and Tenner, the production of them by hemorrhage, and the loss of pulse with syncope preceding them, clearly point to a failure of the heart's action as their immediate cause.

Many facts confirm the conclusion that the arrest of the heart's action is produced by reflex action. The sudden death from cold water introduced into the stomach under certain circumstances, and the effects of shock from a blow upon the stomach or testes, are instances in point of sudden suspension of the movements of the heart. Dr. Brown-Séquard states that he made a great many experiments which show positively that a sudden excitation of the abdominal sympathetic sometimes kills and often diminishes the movement of the heart by reflex action. It must be through the connection with the spinal cord. This is proved by the fact that a section of either the par vagum or the spinal cord or the splanchnic nerves allows any kind of irritation to be made on the abdominal sympathetic without a stoppage of the heart taking place. Legallois and Wilson Phillip determined by their experiments that the heart is under the control of the spinal marrow. The interruption of the heart's action by galvanism to the pneumogastrics, as shown by the experiments of Weber and Budge, has been confirmed by Schiff, Hoffa, Ludwig, and Bernard. Where the heart is feeble from constitutional peculiarities, or from exhaustion and anæmia, the influence of reflex action must be more decided, as under such circumstances that organ is more impressible. Some interesting cases of the influence of reflex action on the heart have recently come under my observation: one, of a gentleman subject to convul-

sions of recent origin, who also labors under disease of the alimentary canal, with excessive sensibility in the right hypochondriac region. On suddenly impressing this region by the hand, as has been done on examination by palpation, his pulse temporarily disappears, the beat of his heart appears checked, and he is thrown into convulsions. Another case is that of a lady who has cancer of the uterus, in whom the pulse vanishes and convulsions ensue whenever the parts are dressed or examined.

It is interesting, in connection with the facts stated, to remark that when sedative agents are employed largely and convulsions follow, the impression upon the heart has been so decided as almost to obliterate its movement. When ether is exhibited, the first impression of sedation is attended with marked depression of the circulation, the disappearance almost of the pulse, and convulsive movements, which are succeeded by entire anæsthesia and by a purple hue of the lips and face, with gradual rising in force of the pulse until it becomes slow and full. Experiments on animals show that convulsions can be produced by such potent sedative medicines as veratrina, aconitina, etc. A case of the effects of an overdose of veratrum viride has lately fallen under my notice. The subject was an aged physician, who, for heart-disease, was in the habit of taking this remedy. At the time I saw him his pulse was not perceptible, the most feeble impulse was given by his heart, his face was pale, and his skin cold and leaking. Weak convulsions occurred every few minutes, with stupor and quiescence, after which there was a return to consciousness. This state continued for an hour or more, until reaction was fairly accomplished by potent stimulation. When his heart beat fully and the pulse returned, the convulsions disappeared.

Mental emotions are sometimes the cause of syncope and stoppage of the heart's action, followed by convulsions, in puerperal cases. Instances of emotional causes are given by Mauriceau, Merriman, and others. Dr. W. Tyler Smith gives an instance in which a husband returned from a perilous journey a day or two after the delivery of his wife, when the sight of him threw her into convulsions. Fright is sometimes the occasion of similar attacks.

Other facts may be adduced in confirmation of the view that has been taken with respect to stoppage of the heart's action being the originating cause of convulsions. If a gaseous fluid, as atmospheric air, be thrown in large quantity into the jugular vein of an animal, the effect is an interruption of the heart's action; the animal becomes pulseless, and convulsions ensue. This was invariably the case in the experiments of Nysten. If the air be introduced gradually, so as to slowly distend the right cavities of the heart and weaken its parietes to the extent of not being able to maintain the circulation, the brain is slowly deprived of blood, and what is furnished to it is non-aerated and venous. In this case the animal dies of asphyxia without convulsions. Nysten produced analogous results when oxygen, nitrous oxide, and carbonic acid were introduced,—in large quantities suddenly with convulsions, and in smaller quantities gradually with asphyxia. It is clear from these experiments that the sudden interruption of the heart's action was the precursor and the cause of the convulsive attacks. When instead of throwing atmospheric air into the vein it was thrown into the carotid artery, apoplexy without convulsions was the consequence, due to inordinate pressure on the substance of the brain.

The introduction of air into the circulation with the result of producing convulsions is well known to surgeons as happening in operations on the neck. This has been treated of by Amussat.

The second cause alleged for the abstraction of blood

from the brain is contraction of the arterial capillaries, produced by excito-motory influence through the sympathetic nerves, controlling capillary circulation. When seeking for an explanation of the cause of epileptiform convulsions on the principle that a stimulus is necessary to the motor tract in order to produce them, Dr. Brown-Séquard supposes that while there is contraction in the arterial capillary system by which the blood is expelled from the brain, there is congestion in the veins of the central upper motor tract, whereby stimulation is engendered from the carbonic acid gas in the venous blood. In this supposition the condition of the heart and general circulation is overlooked; and, with respect to the fact that there is congestion at the base of the brain, it must be recollected that in the experiments of Barrows, Donders, Kussmaul, and Tenner the brain was deprived of blood when death with convulsions occurred from hemorrhage.

The order, moreover, in which phenomena occur in cases of convulsions is incompatible with their production by venous blood. Under hemorrhage this is lessened in quantity when convulsions appear, and it is increased in amount from congestion of the brain at the time the convulsions disappear. It cannot be supposed that the venous blood present at the base of the brain at the time the circulation is interrupted, either by stoppage of the heart's movements or by contraction of the capillary vessels, is capable of producing convulsions, as a normal amount of venous blood is incapable of inducing such result, much less a smaller quantity. This, moreover, would imply that the arterial blood is a counter-agent of the venous. It cannot, again, be supposed that there is an increase of the venous blood under contraction of the arterial capillary vessels, or under suspension of the action of the heart. An augmentation of venous blood with its assumed irritant, carbonic acid, in the vessels of the brain, cannot be admitted; and with respect to the hypothesis of capillary contraction, there is little probability, from the foregoing exposition, that it can be considered an element in the production of convulsions.

It now remains to speak of the part that is played by carbonic acid in the closing scene of a convulsive attack, in which the muscular disturbance is succeeded by stupor and quiescence. The irrespirable character of carbonic acid gas has been known from its first discovery. Bichat and Nysten supposed that its effects were negative, and that, while innocuous in itself, its injurious impression was due to the exclusion of the vitalizing pabulum, oxygen, from the lungs. The experiments of Seguin, Rolando, and Collard de Martigny, however, have demonstrated that carbonic acid is an active agent, capable of producing a comatose condition of the brain. The carbonic acid is not actually produced in the lungs by the introduction of oxygen into them; it is the result of chemical changes in the tissues where oxygen has penetrated, and is exhaled from the blood through the lungs by the displacing power of oxygen. If oxygen is not afforded to the blood by respiration, the carbonic acid is not exhaled, and black blood is circulated through the organs. All of the carbonic acid brought to the lungs by the blood is not exhaled, and the arterial blood that is returned to the brain contains a definite proportion of it. The proportion as ascertained by Magnus was 71.6 for venous and 62.3 for arterial, while with respect to oxygen he found that arterial blood contained 23.2 and venous blood 15.3. There is a tolerance, therefore, on the part of the brain, of a definite amount of carbonic acid.

It is now conceded that an attack of convulsions proceeds from above downwards; which indicates that the motor tract of the brain, as well as of the medulla oblongata, is involved in their production. Dr. Marshall Hall,

in describing the sequence of convulsive movements, after specifying the eyes and features as being primarily affected, states that the second series of symptoms are a forcible closure of the glottis, and respiratory efforts. The closure of the glottis is effected by convulsive lifting of the rima glottidis against the epiglottis, which constitutes the mechanism of laryngismus. When asphyxia from this cause is fairly established, the convulsions succumb to the narcotism from venous blood and the impediment to its return to the circulation. When this is fully relieved, and the blood becomes aerated, there is a return to consciousness.

An interesting confirmation of the foregoing exposition is afforded by the recent investigations of Dr. H. C. Wood. It is well known that when veratria is exhibited, either by the stomach or hypodermically, convulsions follow. Dr. Wood, after administering this article, placed the animals in a box containing carbonic acid gas, with the result of producing asphyxia and death without convulsions. When taken from the box, or when the supply of gas was not sufficient to maintain the narcotism, convulsions were induced.

We shall now examine the question of the so-called state of the system, "uræmic intoxication." When the demonstration was made that parturient women attacked with convulsions labored under albuminuria, the assumption gained ready credence that, as there was a diminution of urea in the urine in that disease, the retention of this principle was the cause of convulsive attacks, and hence the terms were adopted of "uræmic intoxication" and "uræmic convulsions."

There is no doubt that urea does exist in the blood in some cases, and has been detected, as by Bostock, Christison, Simon, and Rees, while, on the other hand, Quevenne, Lecannu, and Becquerel failed to discover it. It is thus seen that its presence in the blood in albuminuria is not an absolute fact. The amount of urea detected in the blood is also so small as hardly to warrant the idea that it is capable of producing so violent a disturbance as convulsions. Dr. Rees, who of all the experimenters most definitely determined the actual amount of urea in the blood, rejected the hypothesis that its presence was the cause of nervous symptoms in albuminuria, because the symptoms and the amount of urea bore no relation to each other. The retention of urea in the blood has been supposed to occur in consequence of its non-discharge by the kidneys. This supposition is predicated on the assumption that the full amount of urea is formed in the blood, and that the kidneys are embarrassed in the performance of their eliminating operations. If urea is a product of the decomposition of the animalized elements of the blood and the tissues, whether originating in the metamorphosis of the albuminous elements, as supposed by Robin, or of the gelatinous, as supposed by Prout, or of all the nitrogenized matters, it is clear that the amount of it produced in the system must be less under an anæmic condition of the blood and impaired nutrition of the tissues with debility than where there exist a rich normal composition of the blood, full nutrition of the tissues, and general vigor of body. The constant hemorrhagic drain of albumen is certainly not conducive to the generation of urea within the body.

But the fact is not established with respect to there being a deficiency of urea in the urine proportionate to the amount formed in the blood. In the reports of cases of convulsions connected with albuminuria, the fact has been assumed of a deficiency of urea in the urine, and on it has been based the theory of uræmic intoxication. The urine in albuminuria may properly be termed "anæmic urine." It is of low specific gravity, and poor in the nitrogenized elements peculiar to healthy urine. It is the exponent of the condition of the sys-

tem, and indicates a deficiency of nutritive material, as well as a want of vigor in the metamorphic processes that are connected with nutrition; and we may assume, with Thudichum, that "the amount of urea is the measure of the most important of the changes of matter in the system." Simon found that urea amounted on an average to about one-third or less of the organic constituents, exclusive of albumen, whereas in healthy urine it constitutes one-half. This was also the result in the examinations made by Becquerel. In two cases of puerperal convulsions attended with albuminuria, I found the amount of urea in the urine to correspond to the statement of Simon. In the first case reported, the proportion was .0008, or one-third the normal amount of solid elements.

It can be shown that urea may exist in the blood without the occurrence of convulsions. Prevost and Dumas removed the kidneys from dogs and cats, and no effects were manifested before the third day, when vomiting and fever set in and the animals died in a state of depression. Ségalas found urea in notable quantity in the blood of a dog sixteen hours after extirpation of the kidneys. Vauquelin and Ségalas injected urea dissolved in water, to the extent of a drachm, into the vessels of an animal, without any disturbance but of the circulation and respiration, attributed to the sudden introduction of the fluid (two ounces). Quevenne found urea in the blood of a woman laboring under disease of the heart in its last stages of dropsy. Upon autopsy, the kidneys presented no alteration, and the urine did not contain albumen.

Ségalas regarded urea as a diuretic, as frequent urination followed its employment. Gallois found that when urea was given to rabbits it passed into the urine in half an hour. Dr. Tanner employed urea as a diuretic. Dr. Hammond repeated the experiment of throwing urea to the amount of a drachm, diluted in four ounces of water, into the jugular vein of a dog. After some slight disturbance, the dog went to sleep, and awoke in two hours perfectly well, when he passed a large quantity of urine. Frerichs, as had been previously done by Bichat, Courten, and Gaspard, repeatedly injected from twenty to forty grammes of filtered human urine, sometimes with the addition of urea, without any ill effects. He refers to a case of a man laboring under granular degeneration of the kidneys, who, in consequence of pericarditis, was bled, the blood containing more urea than he had ever seen in that fluid, without manifesting symptoms of uræmia, so called.

If a very large quantity of urea be injected, convulsions may ensue. This was the case in the experiments of Dr. Hammond, and also of Frerichs; but it also happens when nitrate of potassa, sulphate of soda, and aqua ammoniæ are injected by the jugular veins. The impression upon the heart was not noticed in these experiments; and, from the exposition that has been made of the phenomena that occur in cases of convulsions, there can be little doubt that this was the starting-point of the disturbance of the nervous system, as in the instances where gaseous bodies were thrown into the circulation.

With respect to the retention of urea in the system from the obstructed state of the return-vessels of the kidneys, on which depends the separation of albumen, it may be stated that urea is one of the most soluble of substances, dissolving in its own weight of water. It can be excreted in any fluid of the body,—is sometimes passed in the perspiration, and often in the fluid of dropsy. No reason can be given to explain the passage of albumen through the vessels of the kidneys to the exclusion of urea and other soluble substances; and from the researches of Becquerel it would appear that in albuminuria the richness of urine in albumen, urea,

and other solids comports with the whole amount of fluid discharged. Frerichs was so satisfied from his experimental researches that the presence of urea in the blood did not account for convulsions, that he resorted to an explanation based on the supposed conversion of urea into carbonate of ammonia in the blood. He was led to this supposition from the presence of ammonia in the expired air and in the secretion of animals that had been nephrotomized and urea injected into their vessels. This has not, however, been found by other experimenters. If carbonate of ammonia be thrown into the circulation, so as decidedly to impress the heart and stop its movements, convulsions may result. Carbonate of ammonia is a stimulant that may appropriately be used in cases of convulsions.

The purpose of this paper is to set forth more especially the features of convulsive attacks in connection with pregnancy, and to present the facts derived from the most authoritative sources, which, when collected and arranged in accordance with their proper relation to one another, afford a rational explanation of the mechanism of the affection. It is only by co-ordination of the truths arrived at by many reliable observers and experimenters that a correct comprehension of so complicated an affection as convulsions can be attained.

Our remarks could have been much extended, but the limits allowed us precluded more amplification than has been given. In connection with the treatment, the subject may again be resumed.

A LOCAL OUTBREAK OF TYPHOID FEVER.

BY JOHN S. PARRY, M.D.

IN June, 1869, the writer was called to see a member of a poor family, living in Herald Place, in the eastern part of the city. It is "a blind alley," containing but four houses, which are all situated upon the north side of it.

Ledger Place and Lagrange Place are in the immediate vicinity of Herald Place: the former was at the time in the worst possible sanitary condition. Herald Place was paved with brick, and clean. At its western extremity, and immediately in front of the house in which the typhoid fever first appeared, was a privy.

At the east end of the alley was a hydrant, which was used in common by the families in all the houses of the court. This water was therefore a part of the ordinary supply of the city, and it is not likely that it could have been impregnated with any poison.

The third and fourth houses in the alley were those in which the fever occurred. Both are four stories high, with two small rooms on each floor above the first.

In the early part of May (the date cannot now be definitely fixed), the privy at the western extremity of the court was cleaned,—the first time that it had been disturbed for several years.

The family living in No. 4 consisted of nine persons,—the father, mother, and seven children. About the 20th of the month, the eldest of the latter, a son aged twenty years, began to complain, and eight days later he had fully-developed typhoid fever. A few days afterwards a daughter was attacked, and in a short time the whole family, excepting the father, mother, and their youngest child, an infant at the breast, had the disease.

The younger children had it mildly, and three of them, whose ages varied from three to ten years, scarcely went to bed. A son, sixteen years old, only recovered after a most severe attack. It is probable

that both the father and mother had the disease early in life.

In the third house there were several cases, one of which the writer saw. They were all under the care of another physician. At least one of them was very severe. The residents of the first and second houses all escaped, although among them were several persons who had never had the disease.

At the time that these cases occurred in Herald Place there was no typhoid fever in either Ledger Place or Lagrange Place.

The interesting feature of this local outbreak is its obvious cause. So many writers have traced the cause of typhoid fever to the products derived from decomposing fecal matter, that the origin of the disease in these is now a demonstrated fact. In most instances, however, as in the recent outbreak of the affection at Islington in Great Britain, the poison has entered the system through the alimentary canal; but in these cases it seems to have gained admission through other channels, or at least we are unable to demonstrate that the ordinary ingesta of the patients contained the poison.

The water which they used was not the vehicle for all of the four families in that court, and, if we are not mistaken, two or three on the north side and to the extreme west of Ledger Place were supplied from the same hydrant; yet only the inhabitants of houses Nos. 3 and 4 were attacked.

The disease seems to have originated directly from the emanations from the privy at the time it was cleaned. These were very offensive, and, as it was cleaned at night, it is interesting to remember that those members of the two families who occupied the front rooms of the houses Nos. 3 and 4 that night suffered most severely from the fever.

The privy was nearer to No. 4 than to any other house in the court, and in it the worst cases of the disease occurred.

CASE OF ANGINA PECTORIS,

ACCOMPANIED BY AN EXTENSIVE INTERNAL DEPOSIT OF FAT.

BY DR. PRICE,

West Chester, Pa.

G. T. W., æt. 69, married, a farmer, was temperate, of a bilio-sanguine temperament, without hereditary taint. The prominent symptoms were a peculiar scalding pain in the trachea, increased by exertion, dyspnoea, and intense pain in the region of the heart and stomach. These symptoms supervened directly upon protracted over-exertion eighteen years ago. He was engaged for two days in feeding heavy grain to a threshing-machine, and, being short in stature, he was compelled to work continuously with his shoulders elevated. Acute symptoms came on immediately, and he was never well afterwards. At this time he was not burdened with fat. Cupping or blistering the upper part of the spine always afforded some relief. The attacks of pain and dyspnoea after exertion were frequent, and sometimes precluded all movement for several hours. His digestion was always slow and difficult.

On the 25th of July, 1871, he was attacked with a slight paralysis of the left side; the leg being scarcely affected. Sensation was more impaired than motion. A scalding sensation was present in the skin of the left arm. A catheter was used during a month. The glosso-pharyngeal nerve was most affected; two weeks elapsed before he was able to swallow anything. The power of deglutition then slowly returned; but it was only within a few weeks of his death that he could swallow solids without washing them down with fluids.

The attacks of pain and dyspnoea gradually increased in frequency and severity. Cædema of the extremities and slight effusion in the abdomen and chest occurred late in the case.

The heart-sounds were distant and feeble; the rhythm imperfect; no decided murmur; it was difficult to separate the sounds. The physical signs some weeks before death seemed to indicate oedema of the lungs rather than hydrothorax. The dulness upon percussion was not complete, and did not seem influenced by position. The respiratory murmur was feeble, and accompanied by slight moist râles.

For several weeks before death, the gastric distress and that from defective arterialization of blood were intense. The urine towards the last was slightly albuminous.

He died at 4 A.M., August 2, 1871. The autopsy was made on the 4th, with the assistance of Dr. Massey. Six ounces of clear serum were found in the abdomen, eight in the right pleura, and one in the pericardium. The heart was somewhat atrophied; the right auricle dilated. The muscular tissue had undergone fatty degeneration. The valves were normal, except as to a slight incompetency of those of the right side. There was no appreciable change in the coronary arteries. Extensive pleuritic adhesion existed. The lungs were oedematous; some of the lobules were collapsed. The liver, spleen, and kidneys were enlarged and fatty. The stomach was atrophied.

The most remarkable feature in the case was the enormous accumulation of fat internally. The parietes were not thicker than is very frequently observed; but in the mediastinum, upon the outside of the heart, along the inside of the ribs, below the diaphragm and overlying the stomach, and in the mesentery, the deposit was enormous, and as firm as the kidney-fat of beef. The omentum was not much loaded with the deposit.

Remarks.—The spine probably sustained some injury about the origin of the eighth pair of nerves or of the spinal accessory nerves, and during the later period of his life the suffering was doubtless greatly enhanced by the presence of the fat accumulated upon the pneumogastric nerve and upon the ganglia of the sympathetic system.

NOTES OF HOSPITAL PRACTICE.

PHILADELPHIA HOSPITAL.

SURGICAL CLINIC OF F. F. MAURY, M.D.,

Lecturer on Cutaneous and Venereal Diseases in the Jefferson Medical College, etc.

September 13, 1871. (Continued.)

Reported by Ralph M. Townsend, M.D.

PHIMOSIS COMPLICATED WITH CHANCRE BENEATH THE PREPUCE.

THIS man suffers from phimosis, and he states that prior to the occurrence of this condition he had a chancre under the foreskin. The primary sore was contracted about ten weeks ago, and it has therefore existed long enough to produce contamination of the system, if this is a part of its course. Forty days, as a general rule, is the time allowed for the development of secondary syphilis. The time that has elapsed, then, warrants the opinion that either the poison has become neutralized or the sore has lost its virulence. Cutting open the foreskin, therefore, now offers this man his best chance of recovery.

There is a little adhesion at the frænum, and the surrounding parts are much infiltrated, owing, probably, to the chancre making its appearance in this situation. The propriety of removing the foreskin, or turning it back by slitting, is at once suggested here. Phimosis offers the greatest possible obstacle to a cure either in chancre or gonorrhœa; and when a man in this condition has sexual intercourse, acid secretions from the vagina accumulate around the glans penis and set up a spurious gonorrhœa or balanitis. The old law of Moses, in reference to circumcision, saved many a man from one or more of the various forms of venereal disease.

Dr. Maury stated that Dr. Packard, when preparing statistics relative to this subject, applied to him for the result of his observations as to the frequency of disease in cases where there was a long foreskin. Dr. Maury found that he had

notes of one hundred and thirty-five cases of venereal disease, and only eleven of that number were Jews or men with short foreskins; whereas all the others were men with long foreskins.

This patient has also great difficulty in micturition, and he is frequently compelled to pass a catheter. This condition is also an impediment to impregnation, on account of the ejection of semen being difficult and imperfect. After phimosis has existed for a long time, the inner surface of the long foreskin becomes inflamed and adherent to the glans penis. To remedy this condition, the foreskin has to be peeled off from the glans like the skin from an onion. Sometimes this operation is not at all easy, especially after it has been long deferred. The patient was put under the influence of chloroform, and the prepuce drawn forwards, and cut off obliquely from above downwards. This allowed the cutaneous portion of the foreskin to retract while its mucous facing still clasped the glans. A grooved director was now introduced between the head of the penis and the portion of foreskin that embraced it, and swept around, so as to break up any adhesions that might exist. Care must be taken that the instrument be not introduced into the urethra, for in that case the latter might be split open in the second portion of the operation,—viz., slitting up of the mucous facing of the foreskin. The flexible grooved director having been rightly introduced, the mucous foreskin was slit up, turned over like a rolling collar, and then tacked to the previously-retracted tegumentary portion of the foreskin. Previously to this the infiltrated portion of the foreskin was trimmed away with the scissors. Where the chancre existed the interval thus left is too great to stitch, and the parts will have to heal by granulation.

If this patient had presented himself when the chancre was but two weeks old, or less, this operation would not have been performed, because the parts then would have been much more susceptible to the propagation of syphilis, and the sore itself would have been more active. A vast chancre, extending around the whole cut margin, might have probably resulted. The site of the present sore will be touched occasionally with dilute nitric acid, one part to three or four of water.

SYPHILITIC CARIOS.

This woman illustrates tertiary syphilis affecting the tibia. She had primary syphilis six years ago; and when the affection has reached this stage the tibia is one of the bones most liable to be affected. So, also, the clavicle, the frontal bone, the ulna, and the sternum are likely to be the seat of tertiary disease, and in about the order mentioned. Syphilis assumes various forms when it attacks the bones. Sometimes a node is found seated without the periosteum, in the subcutaneous cellular tissue, where it is known as a gummy tumor. Again, a node may exist between the periosteum and the bone, and, on account of the fibrous substance of the former being very firm and strong, when an effusion takes place beneath it, its long retention causes intense pain and ultimate destruction of the bone. Finally, syphilitic osteo-myelitis may exist,—an affection which begins in the bone-substance. As results of these various conditions, thickening or eburnation, on the one hand, and a honeycombed state of the bone, on the other, may be brought about.

But when one meets an indolent flaccid ulcer like this, which has no tendency to heal, it is unnecessary to stop to inquire to which of these conditions it owes its origin. It can be seen that the bone beneath is superficially dead,—carious; it can hardly be said to be necrotic, as such a term would signify its death in mass.

The bone was cut down upon, and found to be much softened by interstitial lymph-deposit. An ordinary carpenter's chisel was used to gouge away this soft material, the ear being meanwhile used to tell when the operation had been carried to sufficient extent,—the gritting sound denoting when healthy bone had been reached. The edges of the ulcer were well trimmed and all its unhealthy granulations were cut away, and thus the parts were put in condition to throw out healthy and organizable lymph. The wound will be covered with a plain, simple dressing, and the ulcer will occasionally be touched with the dilute acid nitrate of mercury,—one part of the acid to eight or ten parts of water.

Erysipelas seldom occurs after these operations.

WILLS OPHTHALMIC HOSPITAL.

SERVICE OF GEORGE C. HARLAN, M.D.

Reported by Charles K. Mills, M.D.

PARALYSIS OF THE SPHINCTER PUPILLÆ, WITHOUT PARALYSIS OF ACCOMMODATION.

W. C., æt. 18, was struck in the left eye with a large pebble. When he applied for treatment, the day after the accident, the conjunctiva was much injected, and there was a clot half filling the anterior chamber. The sphincter pupillæ was paralyzed. The pupil was immovable, and irregularly dilated to three-sixteenths of an inch, its longer axis being oblique. The acuteness of vision, tested by Snellen's Types, was $\frac{20}{XL}$. The accommodation was unaffected, being found, when tested by a strong convex glass, to equal one-fourth.

Rest and moderate regimen were enjoined, blood was several times taken from the temple by the artificial leech, ice-cloths were applied to the eye, and at the end of a week the paralysis was overcome and the vision normal, equalling $\frac{20}{XX}$ Sn.

STAPHYLOMA OF THE CORNEA AND IRIS.

F. B., æt. 8, was admitted into the hospital for traumatic corneitis of the right eye, the result of a blow with a stone thrown by another boy. The cornea sloughed and the iris protruded. When the patient was discharged, three weeks afterwards, he was free from pain and the inflammation had subsided, but there were indications of commencing staphyloma.

Two weeks later he returned almost in a typhoid condition, with violent headache, insomnia, without appetite, suffering from constant nausea, and looking very weak and haggard.

A renewed attack of inflammation in the eye had supervened, involving the ciliary region. The staphyloma was slowly increasing, and there was considerable irritability of the other eye, with photophobia.

He was readmitted to the hospital, and the front of the eye was removed by the method recommended by Prof. Knapp. A needle (holding a black thread, so that it might be seen beneath the conjunctiva and avoided in the subsequent cutting) was passed under the conjunctiva, at a point behind the intended line of incision, and brought out and reintroduced at convenient intervals until the thread was passed completely around the base of the staphyloma, in the subconjunctival tissue, the two ends hanging out together. The staphyloma was then excised by means of the knife and scissors, and the opening closed by drawing upon the threads, which brought the lips of the incision together, puckering the conjunctiva like the mouth of an old-fashioned purse.

The constitutional symptoms immediately subsided, the boy sleeping well the first night after the operation. He was finally discharged, two weeks after the operation, with an excellent stump for an artificial eye.

INJURY FROM MOLTEN IRON.

J. M., æt. 35, a laborer in a rolling-mill, was struck in the eye with some molten iron. General ophthalmia ensued. There was extensive symblepharon of the lower lid, and anterior staphyloma was forming rapidly. The eye was soon converted into an abscess. The patient suffered terrible pain, intensified by the dragging of the adhesions of the lid to the ball, when the injured eye attempted to follow the motions of the other. Sympathetic ophthalmia was commencing. The lower lid was dissected from the eyeball and the abscess evacuated, and the staphyloma at the same time removed by abscission of the front of the eye. The operation resulted in the entire relief of the patient.

COMPOUND MYOPIC ASTIGMATISM.

Miss A. P., a school- and music-teacher, æt. 22, complained of near-sightedness and of congestion and pain in the eyes. She said her defective vision had within a year rapidly increased, and for about this time she had been using eye-glasses for distance, which were found to be one-tenth sphericals.

By Snellen's Test-Types, her acuteness of vision in the right eye was discovered to be only $\frac{2}{CC}$. Ophthalmoscopically, an extensive posterior staphyloma was diagnosed, the characteristic white crescentic zone at the edge of the optic disk being quite large, and showing a progressive tendency. It was deemed advisable not to attempt to correct this eye by glasses.

Her acuteness of vision in the left eye was $\frac{18}{CC}$. By the ophthalmoscope, a commencing staphyloma was diagnosed.

On testing with spherical and cylindrical glasses, with Green's astigmatic diagrams, and with Thomson's disk, she was found to have a myopia of $-\frac{1}{2}$ in the principal horizontal meridian, and of $-\frac{1}{3}$ in the principal vertical meridian, making an astigmatism of $-\frac{1}{6}$.

She was ordered a glass consisting of a $-\frac{1}{2}$ spherical combined with a $-\frac{1}{6}$ cylindrical, which brought the vision up to $\frac{20}{XX}$.

Placing a $+\frac{1}{2}$ spherical before this combination, music could be read with ease at two feet: adding a $+\frac{1}{4}$ to the combination, gave a $-\frac{1}{4}$ spherical combined with a $-\frac{1}{4}$ cylindrical, which was ordered for music.

The lenses were directed to be set in reversible frames, so that, the right eye not being in use, either glass could be placed before the left, at pleasure.

An interesting point in this case was the fact that the patient, before the correction above given, was in the habit, to a great extent, of overcoming her astigmatism by her mode of managing the inclination of the plane of her glasses, the angle of the axis of vision, and the position of her head. In this way, with her old spherical glasses, she could get a vision of $\frac{20}{XXX}$ while, with head erect, and the optic axes at right angles to the plane of the glasses, she could only obtain $\frac{20}{LXX}$.

CORRESPONDENCE.

TO THE EDITORS OF THE PHILADELPHIA MEDICAL TIMES.

TO those who wish to avail themselves of the medicinal powers of ol. morrhue and iodide of iron at the same time, the following recipe will be valuable. I have used the combination for some time past, and am happy to be able to recommend it to the profession. It is a stable compound, and of a beautiful dark-red color:

R Iodide of Iron, gr. lxiv;
Ether sulphuric, q. s.;
Cod-Liver Oil (clarified), Oj.

Dissolve, in a mortar, the iodide of iron in a slight excess of ether, and add the oil gradually, stirring with the pestle rapidly until the mixture is complete. Keep in a tightly-corked bottle.

The proportion here given is half a grain of the iodide to one drachm of the oil, which is the dose in which I have been prescribing it. It may be increased, however, to $\frac{1}{3}$ ss, if necessary.

Yours respectfully,
J. CUMMISKEY.

2107 ARCH STREET, October 25, 1871.

CHLORAL IN INCONTINENCE OF URINE.—Dr. Tonson (*Gazette Hebdomadaire*, October 6; from the *Gazette Medica Italiana Lombardina*, No. 10, 1871) recommends chloral in the treatment of this affection. It should be given at bedtime, in doses of fifteen grains to children of from ten to fifteen years of age. Generally a cure will be effected after four or five days of treatment.

PHILADELPHIA MEDICAL TIMES.

A SEMI-MONTHLY JOURNAL OF
MEDICAL AND SURGICAL SCIENCE.

PUBLISHED ON THE 1ST AND 15TH OF EACH MONTH BY

J. B. LIPPINCOTT & CO.,

715 and 717 Market St., Philadelphia, and 25 Bond St., New York.

WEDNESDAY, NOVEMBER 15, 1871.

EDITORIAL.

AN APPEAL FOR THE PHYSICIANS OF CHICAGO.

A MEETING of the physicians of this city was held at the Hall of the College of Physicians on Wednesday, October 24, at which a committee was appointed for the purpose of soliciting subscriptions from members of the profession and others for the physicians of Chicago. From a letter recently received in this city from Dr. N. S. Davis we learn that fifty of the regular practitioners of that city have been rendered entirely destitute by the late fire, and that from thirty to forty more have lost nearly all their books, instruments, and office-furniture, but are not destitute in other respects. Good standard works in the practical departments, and surgical instruments, he says, are very much needed by the sufferers. Although it is but a short time since the appointment of the committee, we learn with pleasure that several handsome subscriptions have been received, and that it is probable that quite a large sum will be raised,—part of which, we hope, will be sent to the Northwest, where many physicians have also suffered severely by the recent fires. As all the members of the profession in this city and its vicinity will desire to contribute to this object, we may add that subscriptions may be sent to H. Lenox Hodge, M.D., 901 Walnut Street, *Chairman*, J. L. Ludlow, M.D., 10 Merrick Street, *Treasurer*, or Wm. B. Atkinson, M.D., 1400 Pine Street, *Secretary*, of the Committee.

LEADING ARTICLES.

THE CENSUS OF 1870.

SCATTERING figures, here and there semi-officially published, tell of the numerical importance of growing villages and populous cities, thriving States and flourishing Territories. These are, however, matters equally interesting to the representative of every branch of trade or pursuit,—to every laborer, indeed, in life's great workshop. But few statistical facts have yet been elicited from the records of the recent national census which are of special moment to the medical profession. Peculiarly interesting to the physician are all the details gathered by matter-of-fact and inquisi-

torial employés of the general government, as to the various forms of mental and physical infirmity. If we could once be thoroughly convinced that all these gentlemen, who make their decennial pilgrimage—usually, and, we think, injudiciously, in the summer months—from door to door, wringing from unwilling and reluctant residents almost as scanty information as is generally accorded to the tax-assessor, conscientiously attended to their duties, making every inquiry that their instructions urged upon them, and systematically registering with proper distinctiveness the different grades and varieties of mental and other unsoundness embraced under the heads of insanity, idiocy, etc., we should have much greater faith in the accuracy of such sum-totals as have been recently published in the columns of the general press as the aggregate of insanity, deaf-mutism, etc. in the United States. No information is more carefully concealed by the giver than that which gives publicity to domestic calamities; and the accuracy of statistics is thus seriously imperilled, for the census-taker doubtless overlooks many a skeleton in the house on account of the cloak that has been so carefully thrown around it. The national statistics-seeker is often also himself to blame. In one case in the personal knowledge of the writer, during a visit of inquiry, one of these individuals, after asking all the usual stereotyped questions as to the population of the house, etc., was reminded that he had forgotten to make any investigation in regard to the possible presence of insanity, blindness, etc. His reply was that he would not think of making any such inquiry, for fear of being considered insulting. Such excessive regard for the feelings of others, though probably not a common failing among census-takers, may, however, in some cases be an obstacle to the proper gathering of valuable statistics. The few results thus far vouchsafed to us are hardly yet sufficiently reliable to afford a text for comment; and until the issue of the smaller Abstract of the Census of 1870, or of the more elaborate and bulky volumes which are periodically published by the authorities at Washington, we scarcely feel justified in forming any comparative judgment on the particular prevalence of infirmities of sense or of the senses in special localities or regions, the influence of race and sex as a predisposing cause, etc.

FABER'S TALKING MACHINE.

BY RALPH M. TOWNSEND, M.D.

A MACHINE that utters the articulate sounds of the human voice has lately been exhibited in this city, the initial exhibitions being given at the Jefferson Medical College and the University of Pennsylvania, respectively. On both of these occasions an interesting accompanying lecture on "The Organs of Voice and the Mechanism of Speech" was delivered by Dr. J. Solis-Cohen.

Joseph Faber (uncle of the present exhibitor of the

apparatus), a former Professor of Mathematics in Vienna, constructed this machine as an exact copy, so far as was possible, of the human vocal apparatus. It was exhibited here thirty years ago, since which time the present Prof. Faber has remodelled and improved it. Its mechanism is intricate, resembling, in its labyrinth of springs, strings, wires, and tubing, a loom, and in the complexity of its workings, the Alden typesetter.

The machine proper is mounted upon a table and operated by a keyboard and levers, like a piano. Under the table is a treadle that works the bellows supplying air to the larynx. The latter is formed of india-rubber, with a movable glottis of thin lamellæ of ivory to give the necessary tension. The upper jaw is wooden and stationary, having a lip of leather. The under jaw, which is movable, is made of gutta-percha, as is the roof of the mouth. The tongue is made of rubber, is flexible and movable, and can be pressed either against the palate or back into the throat. As the mouth is unprovided with teeth, a narrow metallic band is made to fall from over the upper lip and close the fissure of the mouth whenever the dental sounds are required. There is no soft palate. The nasal opening which permits the production of the sounds of *m* and *n* is formed of a tube proceeding from the larynx, beyond the vocal cords, and when the lips are closed, as for *b*. In the same way the *n* is made by the *d*. A little shuttle-wheel is so contrived as to be dropped into the current of air proceeding to the glottis, where its rapid revolution produces the sound *r*.

The lungs are represented by a pair of bellows. The instrument speaks phonetically, and can therefore utter words in any language. Fourteen sounds are used,—viz., the vowels *a, e, i, o, u*, and the consonants *l, r, w, f, s, sh, b, d*, and *g*. In some instances remaining sounds are obtained by variously combining these, and in others they are modified by opening the glottis. The operator, Madame Faber, being a German and not speaking a word of English, the accent of the former tongue is readily distinguishable in the utterances of the machine. A mask, with a tubular nose, is slipped over the mouth when the machine speaks French, so as to give the nasal sound peculiar to the pronunciation of that language. The instrument is also able to speak in a very high or in a deeper tone; but all parts of a complete sentence must be intoned alike.

Such, in brief, are the appearance and construction of this mechanical marvel. Its utterances are distinct, although monotonous and sepulchral,—totally devoid of modulation, emphasis, or shade of expression. Its emotional impressions rank with those of Mrs. Shelley's "Frankenstein,"—a literary monster that has haunted the pillows of two generations of nocturnal readers. It affects a timid individual like a gibbet and skeleton creaking and rattling in the night wind; and one does not marvel at the practical deductions of a Huxley or a Darwin after hearing it drawl out, "I—can—talk—as—well—as—anybody—buth—I'm—a—ma—sheen."

As a fruit, however, of man's patience and ingenuity,—as an apparatus illustrative of the workings of the vocal organs,—and, finally, as showing the infinite superiority of God's handiwork over man's most elaborate imitations,—in all of these this machine stands forth in pleasantly instructive lights, and therefore has its lessons that cannot be too well studied.

In his lecture, Dr. Cohen gave a short sketch of the history of these talking machines, an abstract of which will not prove uninteresting;

"Although attempts at the artificial production of speech had long been made, the first partial success seems to have dated from 1779, in which year the Imperial Academy of Sciences at St. Petersburg proposed, as the subject of one of their annual prizes, an inquiry into the nature of the (Continental) vowel-sounds,—*a, e, i, o, and u*,—with the construction of an instrument imitating them artificially. This prize was awarded to one Kratzenstein, who showed that the vowel-sounds could be distinctly produced by blowing through a reed in the lower ends of pipes of certain formation,—one for each vowel.

"About the same time, Wolfgang von Kempelen, of Automaton Chess-Player notoriety, attempted the construction of a talking machine, in which he was moderately successful. The vowel-sounds were produced by adapting a reed to the lower portion of a funnel-shaped tube, the sounds of which were modified by inserting the fist into the mouth of the funnel. He afterwards constructed an oval-shaped box which opened on hinges so as to represent the action of a jaw. The tube containing the reed entered this box, and by opening and closing the jaws he produced the sounds *a, o, u* in a satisfactory manner; *e* was imperfect, and he was unable to produce the sound *i*. (These are the Continental vowel-sounds.)

"Subsequently, he was enabled to obtain from different jaws the sounds of the consonants *p, m, l*, and, by means of combining these, he was enabled to deceive the ear by an imitation of most of the other consonant-sounds; and, finally, he completed an arrangement with only one mouth and one glottis, the mouth consisting of a funnel-shaped piece of india-rubber, the sides of which were compressed by the fingers, so as to represent the lips in the formation of *b, p, m*, and *v*. In the tube leading from the wind-chest into this mouth were two tin tubes, capable of being opened by compressing a button at their free extremity, and thus representing the nostrils. When both of these were open, and the mouth closed, he produced the sound *m*, and when only one of them was open, he produced an *n*. Three valves were upon the wind-chest, two of which when open produced the sounds *s* and *sh*, respectively, made by little pipes; and the third valve when opened permitted the vibration of a separate reed which made a sound somewhat resembling the roll of the *r*. The whole apparatus was enclosed in a box about three feet in length and rectangular in form. It was placed upon a table, and covered with a cloth, under which the inventor placed his hands while operating the machine. He was able to produce a great number of words and sentences,—among others, *papa, mamma, lama, aura, opera, astronomy, Constantinople, exploitation, vous êtes mon ami, je vous aime de tout mon cœur, venez avec moi à Paris, Leopoldus secundus, Romanorum imperator semper Augustus*, etc.

"Mr. Kempelen, producing the whole or less of the reed sliders. pipe in increasing far as to in unison in a rev length unison

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"Mr. Willis, of Cambridge, repeated the experiments of Kempelen, using a shallower funnel, and, instead of introducing his hand to modify the sounds, succeeded in producing the whole series of vowel-sounds by sliding a flat board more or less over the top of the funnel. He then adapted tubes to the reed, and varied the length of the tube by telescopic sliders. When the tube was shorter than that of a stopped pipe in unison with the reed, he produced an *i*, and by increasing the length of the tube the sound changed in succession to *e*, *a*, *o*, and *u*. When the tube was lengthened so far as to be half as long again as the length of a stopped pipe, in unison with the reed, the vowels again were sounded, but in a reversed order, and then again in direct order when the length of the tube was equal to twice that of a stopped pipe in unison with the reed."

After this came the original invention of Prof. Faber, which, with its later modifications, I have above described.

LECTURES ON MEDICAL ETHICS AND ETIQUETTE.

WE believe that a great benefit would be conferred on the medical profession at large if those who are about to enter upon its practice were taught something of the general principles which should guide them in their intercourse with their brother-practitioners as well as with their patients and the public. It is true that the groundwork of medical ethics is the golden rule, to do unto others as we would be done by; and it is equally true that medical etiquette is the working out, in minor matters, of this great principle; and yet there is a wide-spread impression among the laity that the whole affair is an absurd and arbitrary system of punctilio, to which the profession are at any time ready to sacrifice the comfort, and even the lives, of their patients.

A better understanding of these things on the part of those who are entering upon practice would, in our judgment, not only prevent many errors now committed through ignorance, but would tend to strengthen and harmonize the whole profession. For some, indeed, who have a natural aptness in the perception of such matters, and for others who have learnt them by experience in other relations, such teaching might be unnecessary; but there is a large class who would be greatly benefited, and whose whole professional life would be rendered purer and higher in tone, by the distinct enunciation of the principles on which they may, under any circumstances, define what is due to and from them.

Among the points which might be embraced in these lessons, we would indicate the relation of consulting and attending physicians or surgeons, cases of emergency and interference, the general system of charges, the definition of quackery, and legal relations of medical men. There are doubtless others, but these have suggested themselves on the moment, and have all been illustrated, within our own observation, as apt to be subjects of misapprehension on the part of those not yet enlightened by experience.

EXTRACTS.

AUTOPSY OF THE DOUBLE-HEADED BABY.

SO much attention has been excited by the public exhibitions of this monster, and so much of our space has recently been devoted to the discussion of questions of teratology suggested by it, that the following account, from the *Boston Medical and Surgical Journal* of October 5, of the autopsy in the case of the so-called "Ohio twins" cannot fail to be interesting to our readers:

Autopsy, thirty-eight hours after death.—Dr. Ainsworth made accurate measurements of every part, but, being obliged to leave, the examination was conducted by Dr. C. Ellis, with the assistance of Drs. C. B. Porter, H. H. A. Beach, and R. H. Fitz. There was *talipes varus* of the right foot. The length of the bodies, from vertex to vertex, was twenty-nine inches. The fused leg measured, from trochanter to malleolus, eight and one-half inches; around the thigh, eight and one-half inches. The leg corresponding with the smaller child was smaller than that of the other.

No proper *umbilicus* was seen, but in the position of this was a kind of superficial cicatrix an inch or more in diameter. This appearance was connected with an attack of erysipelatous inflammation of the part soon after birth, followed by sloughing. Both *aortas* were found in the usual position, and the preservative fluid passed very readily from the aorta of the larger child into all the vessels of the smaller.

The *round ligament* was in its usual position in each liver, but the vessels soon subdivided, and could not be traced as far as the umbilical region, or, if so, the branches were exceedingly small, and spread out in a fan-shaped expansion of peritoneum. The *lungs* were more subdivided than usual, and on the free edges were several auricular appendages. The *thoracic organs* were in other respects normal. The *livers* presented a number of supplementary lobules and fissures, but were of the usual size. The *spleens* occupied their normal positions in each child, and were in every respect normal.

In the small child, instead of the layers of peritoneum, which extend downwards to form the anterior layers of the *great omentum*, there was a fold attached to the large curvature of the stomach, but half an inch broad. In the large child this fold extended to the colon, as is usual, and formed below a free, thin layer, which represented the great omentum. The *stomachs* were in their usual positions, but both were so affected by cadaveric softening that they were torn in their removal, though handled with ordinary care.

The *small intestines* were fused at a point twenty-five inches above the ileo-cæcal valve, that of the smaller child being considerably constricted for a short distance from the junction. The commencement of the fused portion formed a conical sac, with the base and sides an inch and a half in length. The *two mesenteries* of the individual small intestines continued separately over the common portion. The intestine of the larger child measured, from the pylorus to the common portion, thirteen feet three inches; that of the smaller child, seven feet ten inches. There was *one large intestine* twenty-five inches long, apparently the result of the fusion of two, as there were two appendices cæci and four longitudinal bands, each pair terminating in the appendices. Each vermiform appendix had a distinct peritoneal fold.

The *kidneys*, larger than those usually seen in a nine-months child, lay upon the side of the common spine, corresponding with the perfect lower extremities. This arrangement gave a left kidney to the larger child and a right to the smaller, which was also shown by the examination of the organs themselves.

Upon the same side was a well-formed *bladder*, four inches in length and two in breadth; from the fundus of this a *urachus* extended upwards towards the umbilicus. The *hypogastric arteries* were in their usual position. Behind this was a *uterus*, an inch long and half an inch broad at the fundus, with perfectly normal appendages. Fallopian tubes two inches long. Left ovary, one inch; right, three-fourths of an inch in length.

Lying beneath the intestine, and attached to the posterior wall of the abdomen, was a somewhat *conical cyst*, with quite an irregular outline, owing to the sacculation of various parts. The broadest portion, towards the fused limbs, filled the space between the cartilages of the ribs, while the opposite side was only two-thirds as large. It weighed, with its contents, 3 lb. 6 oz. avoirdupois, and contained about two pints of opaque liquid, in which were floating soft, white masses or flocculi, composed of epithelium. On raising the free portion towards the fused limbs, there were seen two well-developed ovaries, three-fourths of an inch in length, attached to the wall of the sac by ovarian ligaments; also two Fallopian tubes.

A careful dissection of the cyst from the tissues which bound it to the posterior wall, showed a *second cyst* lying in and projecting from a small cavity formed by bones, which resembled the ossa innominata of the fused limb. This was connected with the large sac by a firm, white cord, from two-thirds of an inch to an inch in length and half a line in diameter. This gradually tapered towards the upper extremity. In the lower portion there still remained a narrow canal, as was shown by the escape of a drop of clear fluid after incision. The small sac was carefully dissected from the pelvis, with what appeared to be a mass of fat; but after removing the latter a *third cyst* was found, the contents of which could be forced into the second through a very narrow canal. The uppermost of these cysts was perhaps half an inch in length, the lower somewhat larger.

Attached to, or rather imbedded in, the posterior wall of the largest cyst first described, near the crest of the ossa innominata of the fused limb, were two somewhat *oval, reddish bodies*, the largest seven-eighths of an inch in length, the smallest five-eighths.

This series of sacs and the small, firm, reddish nodules resembled nothing in the fully-developed body, but probably represented certain organs the development of which was arrested or in some way perverted. If we revert to the well-developed organs about which there can be no doubt, we find two complete sets of thoracic organs, two livers, two spleens, two stomachs, two small intestines fused below, and one large intestine presenting some features belonging to two; also one complete set of pelvic organs, and on the opposite side two ovaries and two Fallopian tubes. To complete the double series we need two kidneys, a bladder, and a uterus. A thorough examination of these doubtful formations, by Dr. R. H. Fitz, gave the following results:

"On microscopic examination, the two reddish bodies were found to contain straight and convoluted tubules, with Malpighian bodies. No duct could be found connecting these bodies with the cavity of the cyst. The inner surface of the *large sac* was mostly smooth and serous in appearance, with many reticulated fibres visible beneath the surface. Some portions of this were covered with an opaque, white, wrinkled, almost nacreous-looking coat. This was easily detached, friable, and left a smooth surface when raised. This consisted of epithelium, varying in character between the tessellated and moderately cylindrical forms. Projecting from the inner surface was a conical body, about one-fourth of an inch in length and perhaps a line in diameter, terminating in a red, rounded extremity as large as a mustard-seed. The base of this corresponded with the termination of the white cord previously described, which connected this large cyst with the other smaller ones. The surface around it had a peculiar reticulated appearance over an area two inches square. This was due to the presence of a number of pouches, with free circular openings from two to four lines in diameter. On passing a probe into these, the parietes were found to extend laterally in the walls of the sac for a considerable distance,—in several instances at least half an inch. In the immediate neighborhood of the open pouches were found three or four round yellow patches, rather smaller than the head of a pin. Pressure being applied, a yellow semi-solid substance was set free, which was made up of numerous nuclei of the size of white blood-corpuscles, and large cells often of the size of mucous corpuscles. The largest of these, though still containing an apparently normal nucleus, were quite homogeneous and translucent. The nuclei were faintly granular. These were contained in pouches, smaller, but otherwise similar to

those previously mentioned. The wall of the large sac contained spindle-shaped muscular elements.

This large sac was probably the bladder, judging from the character of the epithelium and the presence of muscular elements. The pouches corresponding in position with the racemose glands at the neck of the bladder were apparently due to retained secretion."

The correctness of the conclusion arrived at by Dr. Fitz is shown by the following chemical examination of the contents of the cyst, by Dr. E. S. Wood. He says:

"The clear fluid was of a light straw color,—spec. grav. 1.014. *Reaction* acid to test-paper. *Sediment* very abundant, dense, white in color, and consisting of epithelium. *Albumen* was present in considerable amount, the coagulum formed by heat occupying about one-eighth of the bulk of the liquid tested. *Chlorides* and *phosphates* were present in about the same proportions as in normal urine. *Sulphates* were present in less proportion than in normal urine. Concentrated sulphuric and hydrochloric acids produced the same colors as when reacting upon the same amount of urine in which *urophæin* and *uroxanthin* are slightly diminished. Well-defined crystals of *uric acid* were obtained after concentrating the fluid and applying the appropriate tests. These crystals responded to the murexide test. From another portion of the concentrated fluid were obtained crystals of *nitrate of urea*, after the addition of nitric acid. Thus all the constituents of normal urine were present, as well as epithelium in abnormal amount, and albumen."

In regard to the two other cysts, Dr. Fitz makes the following statements:

"The smaller one contained a clear watery fluid. Its inner surface was covered with a delicate tessellated epithelium; the other contained a white, opaque, semi-solid material, made up of fat epithelium. The wall of this was formed of true skin, which bore numerous delicate hairs half an inch or more in length. By the exercise of considerable pressure the sebaceous material could be forced into the smaller cyst through a narrow canal lying between the two." He concludes, therefore, "that the *smaller* sac is probably the uterus converted into a serous cyst by the retention of its secretion; the sebaceous cyst is probably the vagina, which, genetically, is nothing more than inverted skin."

The result of Dr. Wood's chemical examination is as follows:

"The small sac contained about 3ss of a clear and colorless fluid, which was slightly acid. Spontaneous evaporation of a portion left as the only residue a number of crystals of chloride of sodium. No other substance could be detected by reagents."

Taking into consideration all the above data, we are justified in saying that there existed representatives of the missing organs, either undeveloped or in some way modified.

The spines were curved as they approached each other, and fused at the first sacral vertebra, which was broad and curved. The limb formed by the fusion of two was attached to the body by muscles only.

Large nerves extended from both spinal columns into the rudimentary pelvis and to other parts.

No more complete examination of the skeleton could be made, as the body was removed.

DANGERS OF CHROMIC ACID.—M. Gubler (*Edinburgh Med. Jour.*, September; from *Gaz. Méd. de Paris* and *Bulletin de Thérapeutique Médicale et Chirurgicale*, August 15, 1871) remarks that chromic acid is one of the most powerful of caustics. Only the monohydrous sulphuric acid at all approaches it in strength. It acts rapidly, setting free a considerable amount of heat, so that the temperature may rise to 125 or 150 degrees. If we plunge a small animal, such as a mouse, into a concentrated solution of chromic acid, it is instantly reduced to a cinder, and the ebullition is so great that, unless care be taken, the mouse and a part of the solution are forcibly ejected. This caustic, applied over an extensive surface, may therefore give rise to a deep slough. Further, the absorption of chromic acid is not free from danger, and patients have been poisoned by too extensive an application of this caustic to the surface of their bodies.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY, OCTOBER 12, 1871.

THE PRESIDENT, DR. JOHN ASHHURST, JR., in the chair.

DR. S. S. STRYKER presented for Dr. J. B. H. Gittings a specimen of *aneurism of the abdominal aorta*, removed post-mortem from a confectioner, aged 32 years and weighing 160 lbs. He was of intemperate habits, habitually exposed to cold and moisture, and had had venereal disease.

When 18 years old, he was thrown from a colt and kicked in the lumbar region, from which, however, he did not apparently suffer. A year later he was struck upon the left hip with a large paving-stone. Eighteen months ago he noticed the sudden occurrence of pain in the back and left leg, which subsequently located itself in the left thigh, and disabled him for five months.

A year ago, while standing against a counter, he felt pulsation in the left side, and then by his hand detected a lump, which he subsequently discovered became at least four inches in diameter towards night, but was reduced by the morning to the size of a goose-egg. Two months ago the tumor began to grow rapidly, until it attained a transverse diameter of seventeen inches, a vertical diameter of fourteen inches, and a circumference of forty inches. The veins over its surface were enlarged, and it imparted a distinct pulsation to the hand. The pulse-rate at the wrist was 120; there was no perceptible pulse in the lower extremities.

He died, and at the autopsy the following notes were made:

The *viscera* were all pushed into the right side.

Thoracic cavity.—The connective tissue of the anterior mediastinum was infiltrated, and the parts were matted together; the anterior margin of the left lung reaching the median line, while the right lung extended to a position one and a half inches from the median line.

Heart.—The apex of the heart extended one and a half inches to the right of the median line, and lay behind the seventh intercostal cartilage of the right side.

Liver and appendages.—The left lobe of the liver extended but two inches to the left of the median line, while the lower edge of the right lobe extended down to the crest of the ilium. The fundus of the gall-bladder lay on a level with the umbilicus and three inches to the right of the median line. The longitudinal fissure was found two inches to the right of the median line, and the suspensory ligament was exposed anteriorly to a distance of four and a half inches. The upper margin of the right lobe extended upward to the upper edge of the fifth rib.

Spleen.—The spleen lay two inches to the right or left of the median line: it measured six inches in diameter.

Kidneys.—The right kidney extended two inches below the umbilicus. The left kidney lay on the anterior and upper aspect of the tumor; was five inches long, and, in position, extended one and a half inches above the umbilicus, its superior border being on a line with the lower margin of the sixth rib. The entire organ lay to the left of the median line. The right supra-renal capsule was in its normal position. The left kidney was in contact with the anterior wall of the abdomen.

Ribs.—The eleventh and twelfth ribs were entirely denuded of periosteum.

Diaphragm.—The tissues of the diaphragm were destroyed.

Pericardium.—The pericardium was moderately distended with straw-colored serum.

Tumor—its position.—The tumor extended two inches to the right of the median line, and occupied the entire left side of the abdomen, passed upwards as far as the sixth rib (upper margin and junction of cartilages) and downward four inches below the anterior superior spinous process of the ilium, crossing anteriorly on a level with the eleventh rib. All that portion of the transverse colon in contact with the tumor was very much contracted; the remaining portion of the transverse colon,

including the hepatic flexure, was moderately inflated. The same statement applies to the cæcum and the ascending colon and the transverse portion of the duodenum. The pancreas was pushed forward by the tumor and inclined to the right side; the remaining portion of the small intestine was wedged in between the ascending colon and the tumor, and occupied the cavity of the pelvis, with the sigmoid flexure and the rectum. The descending colon lay directly along the longitudinal axis of the tumor.

The left side of the diaphragm was in great part destroyed by the aneurismal mass, permitting an escape of blood into the left thoracic cavity, as was evidenced by the presence of a large soft clot between the basal surface of the lower lobe of the lung and the diaphragm. There was no evidence of general pleuritis, though thickening of the pleura and old adhesions were seen about the upper lobe of the corresponding lung,—the apparent result of numerous tubercular deposits in the parenchyma of the lung. The old laminated clot was everywhere surrounded, except at its superior portion, by fresh clot averaging about one inch in thickness. At the superior portion was noted a semiglobular mass continuous with the clot already described as occurring in the thoracic cavity. Posteriorly, the mass had protruded through the posterior boundary of the lumbar region to appear on the region of the back, where it formed the tumor so conspicuous in life. The aneurismal cavity was here in direct contact with the skin, extending downwards outside of the abdomen and pelvis along the entire length of the osseous ileo-sacral articulation. The last rib was detached from its articulation with the vertebra, and is denuded of periosteum. The eleventh rib was in position; its costal cartilage detached. The bodies of the lumbar vertebrae, especially the first and second, were eroded by the tumor; the vertebral cartilages, as usual, in great part escaped. The right ventricle of the heart contained a small fresh black clot, which extended up into the pulmonary artery. The psoas muscle in its entire abdominal portion was incorporated with the anterior wall of the aneurismal sac.

Dr. JOHN H. PACKARD related the following case:

Mrs. S., æt. 65, the mother of nineteen children, was a remarkably stout and robust Englishwoman. About three years ago she was greatly overtaken by the long and fatal illness of her husband, and suffered in consequence a severe attack of typhoid fever, which was followed by phlebitis. From the effects of this she never fully recovered.

In the autumn of 1870 she was found, after having complained for several months of dyspeptic uneasiness, to have a tumor in the epigastrium. This rapidly increased in size, while she became more and more emaciated. It was the seat of excruciating pains and tenderness and of a very marked expansive pulsation. For months before her death she ate nothing, but lived on milk, and took very large doses of morphia. Her bowels were for a time very much constipated, but suddenly became regular, and continued so for six weeks or more before she died (August 29, 1871), the tumor having disappeared a day or two previously, with much pain, after straining at stool.

Autopsy, thirty-six hours after death.—The body was excessively thin. In the *thorax*, the only lesions found were a minute deposit of tubercle, in a cretified state, at the apex of each lung, a somewhat fatty condition of the heart, and a slight atheromatous change in the aorta.

On opening the *abdomen*, the liver was seen enlarged and studded with whitish deposits about as big as English walnuts. The gland-substance was almost entirely replaced by the adventitious material. The pancreas was atrophied and very firm in texture; it was closely adherent to the pyloric extremity of the stomach, which exhibited an epithelioma-like thickening on its inner surface. All the other viscera seemed normal.

Dr. Tyson was kind enough to examine the adventitious deposits in this case microscopically, and reports as follows:

"I was quite surprised to find the nodules in the liver composed largely of fibrous tissue, among which were disseminated many of the small irregularly round and oval granular cells formerly called tubercle-corpuscles. The same elements were present in the little white points in the lungs. The hardened portion of the stomach also appeared fibrous in structure. The nodules were probably deposits of tubercle."

Dr. W. W. KEEN presented for Dr. W. H. WEBB a speci-

men of primary cancer of the head of the pancreas, a detailed account of which appears among the Original Communications of the next number of this journal.

REVIEWS AND BOOK NOTICES.

A MANUAL OF MIDWIFERY, including the Signs and Symptoms of Pregnancy, Obstetric Operations, Diseases of the Puerperal State, etc. By ALFRED MEADOWS, M.D., London. First American from the Second London Edition, Revised and Enlarged. Philadelphia, Lindsay & Blakiston, 1871.

A book which, without exceeding the limits of a manual, shall yet give a comprehensive survey of the more modern views and teachings of the principal schools of obstetrics, has long been felt to be an absolute and pressing want, not only in England, but also on the Continent. The works of Siebold, Wigand, and Kilian have long since ceased to be in the hands of the students, and rest on the dusty shelves of libraries, untouched save by the teacher and special student in this branch of medical science; while the exhaustive and profuse treatises on obstetrics by Hohl, Scanzoni, and Lange are so imposing in bulk and copious in detail that the German student, in despair, turns to the manuals for the use of midwives, published by Martin and Späth, and, with the aid of their insufficient and necessarily imperfect instruction, seeks to supplement the didactic lectures and thus to prepare himself for the inevitable "*rigorosum*."

In America the same want has been felt even more acutely, owing to the comparatively short time devoted to study, and the increasing tendency to enlarge the sphere of instruction, by the establishment of chairs in the universities devoted to the elucidation of special branches in medicine.

To meet this want, Dr. Alfred Meadows published, a short time ago, a Manual of Midwifery. For many years an active member and office-holder in the Obstetrical Society of London, one of the Physicians to the General Lying-in Hospital, a thorough and indefatigable student in the foreign literature of this special branch, and, above all, endowed, as his original and valuable contributions abundantly prove, not only with a receptive but also with a productive mind, he was eminently qualified for this self-imposed task; and this volume, which is the result of his labors, may with all justice be regarded as representing the principles which govern the practice of the most eminent obstetrical practitioners in Great Britain. The American reprint of the second edition of the Manual will unquestionably be adopted in many of our larger universities as one of the recognized text-books; for the advantages which the student will gain by thus early in his studies familiarizing himself with the names and views of the leading English obstetricians cannot easily be overestimated. The labors of Simpson, Barnes, Braxton Hicks, and others have been so productive that there is scarcely an operative procedure which has not been modified and improved; and to ignore these names and rest content with the works of Ramsbotham and Cazeaux, complete and exhaustive as they once were, is to close one's eyes to modern progress, and to remain forever satisfied with things as they were.

Instead of evading the difficult subject of embryology by referring the student to the text-books on physiology, Dr. Meadows has given a connected and succinct account of the successive steps by which Nature evolves from the simple fructified organic cell the adult and mature fetus. Admirable as is the description, we still feel that had the author been familiar with the investigations of Prof. Waldeyer concerning the minute anatomy of the ovaries (which will soon be made accessible to English readers by the New Sydenham Society's translation of Stricker's Handbook of Histology), he would not have had recourse to the oft-quoted article by Dr. Farre on the "Uterus and its Appendages;" for the researches of the German anatomist constitute, in truth, an era in the study of the histology of the ovaries, and open the way to future investigations with regard to the pathology of this organ, which will, it is only reasonable to hope, throw light upon this hitherto most obscure subject.

The description of the mechanism of labor is clear, and sufficiently extended to avoid any possibility of confusion. We must, however, again enter a protest against a tendency on the part of certain English authors to surrender one of the more important advances which have been made towards simplicity in obstetric nomenclature. To the patient and earnest studies of the elder Naegele by the bedside of the parturient woman we owe the first full recognition of the overwhelming frequency with which the head of the child presents with its long diameter in the right oblique of the pelvis (adopting the German phraseology). Hence he considered this as the normal position, and the others as only rare and exceptional deviations. All of the German authors followed this plan, the most of them, however, adding two more positions when the head occupied the left oblique.

This classification Dr. Meadows has adopted; hence his third position corresponds to our fourth, his fourth to our fifth, leading thereby to confusion when the book is placed in the hands of American students. But Dr. Meadows has not been content with these four positions,—the only ones occurring in practice, except as anomalies or intermediate stages,—but has returned to the old nomenclature of Ramsbotham, and described also the four "direct cranial positions," as he terms them. Each year the necessity for an International Congress of Obstetricians and the adoption of a common nomenclature becomes more and more apparent as the exchange of literary products between the Old and New World becomes more extended. The confusion caused by the diametrically opposite interpretation of the term "oblique of the pelvis" by the two nations in which progress in midwifery has been most active, is alone a serious cause of mutual misunderstanding.

The transference of breech and face presentations to the catalogue of "Unnatural Labors" is also to be regretted. The unavoidable tendency of this classification is to suggest to the mind of the student the necessity of operative interference of some sort or other, even although the author states that, as a rule, in "these cases, the less done the better." For the sake of simplicity alone, the classification of these presentations with those of the head is to be recommended, for by this means the indications for operating become the same in all these cases,—viz., the occurrence of symptoms which make it advisable to assist or to complete the labor. The operation is performed not because there is a face or breech or head presentation, but because certain individual or accidental complications present themselves which determine the obstetrician to aid Nature in the task of expelling the child.

Under the full influence of the London school, the author does not fail to recognize the supreme value of the operation of version,—the triumph of conservative obstetrics; and hence especial care has been given to the description of this operation, its successive steps minutely described and illustrated, the modified methods explained, and the indications clearly drawn.

In the chapter on Puerperal Fever, Dr. Meadows, after a thorough description of the pathological changes comprehended under this general term, does not hesitate to rank himself among those who "dissent from the so-called antiphlogistic principle of treating this disease," and relies on stimulants, light and nutritious diet, and counter-irritation, combined with the use of the diffusible stimulants, opiates, diaphoretics, and vegetable tonics, as soon as the acute symptoms have passed off.

In conclusion, we cannot but feel that every teacher of obstetrics has good cause to congratulate himself on being able to put in the hands of the student a book which contains so much valuable and reliable information in so condensed a form.

THE PHYSICIAN'S VISITING LIST FOR 1872. Twenty-First Year of its Publication. Philadelphia, Lindsay & Blakiston.

The merits of the "Visiting List" are so well known throughout the United States, and it has become positively necessary to so large a number of physicians, that we think it a sufficient notice of the book to call the attention of the profession to the fact that the publishers have already issued the edition for 1872.

BOOKS AND PAMPHLETS RECEIVED.

Clinical Examination of Urine, with a Description of a Convenient Apparatus for its Speedy Analysis. By Reuben A. Vance, M.D.

A Contribution to the Treatment of the Versions and Flexions of the Unimpregnated Uterus. By Ephraim Cutter, A.M., M.D. Reprinted from the *Journal of the Gynecological Society*.

Annual Announcement of the Trustees and Faculty of the Medical College of the State of South Carolina. Session of 1871-72.

On the Use of the Ophthalmoscope in Diseases of the Nervous System and of the Kidneys; also in certain other General Disorders. By Thomas Clifford Allbutt, M.A., M.D., Cantab., etc. 8vo, pp. 405. London and New York, Macmillan & Co., 1871. For sale by Lindsay & Blakiston, Philadelphia.

GLEANINGS FROM OUR EXCHANGES.

THE TESTS FOR THE BILE-ACIDS.—Dr. E. A. Golowin has found (*Virchow's Archiv*, September 18) that neither Pettenkofer's nor Neukomm's test will detect the presence of the bile-acids in a cubic centimetre of water if it does not contain a larger proportion than 0.0001 grain of them.

THE SECRETION OF MILK DURING THE COLLAPSE OF CHOLERA.—Mr. Sedgwick, in a communication to the *Lancet*, October 7, 1871, entitled "On some Physiological Errors connected with Cholera," says that the continuance of the secretion of milk during the collapse of this disease cannot be attributed to the fact that the chief constituents of the milk are not oxidized products, and proposes to account for it by the antagonism which naturally prevails between nutrition and reproduction, and which would allow of the continuance of the functions associated with reproduction, even when, as in the collapse of cholera, there is a central arrest of nutrition.

FIBROUS TUMOR OF THE PALATE.—M. Félizet reports (*L'Union Médicale*, October 3) the case of a woman, aged 47 years, who suffered from a fibrous tumor of the palate, about the size of a bean, and situated to the left of the median line. There was no engorgement of the submaxillary or other glands; the tumor was not painful; the mucous membrane which covered it was not ulcerated, and had never bled; and there was no enlargement of the veins of the region. The tumor was removed by M. Horteloup without difficulty, and nine days after the operation the patient was regarded as well.

EARACHE IN CHILDREN.—Dr. Anstie, after detailing (*The Practitioner*, October, 1871) the particulars of an attack of auricular herpes zoster in his own person, says that the idea has occurred to him that a large proportion of cases of earache, which are generally set down as examples of suppurative inflammation of the meatus auditorius, are in reality nothing but neuralgic herpes, depending on an affection of the auriculo-temporal nerve. In the earache to which children are liable, the pain often comes on in the first instance violently,—the patient cries out with the severity of the suffering; but then there are remissions, amounting often to complete intermission. Moreover, it is but rarely that a well-defined discharge of pus is observed, even when relief to the pain has been somewhat suddenly obtained, as is not unfrequently the case. On the contrary, there is frequently found a shedding of small scales, either dry or moistened with a little bloody sanies, from the lining of the meatus, a few days after the cessation of the pain,—in fact, what looks like the dead epidermis of vesicles that have faded. The whole course of events seems, he says, to correspond much more nearly with that of auricular neuralgic herpes than with that of common abscess of the lining membrane of the meatus.

Herpes zoster occurring in children on other parts of the body is not attended by much neuralgic pain, and the occurrence of severe pain in the auricular form of the disease is difficult to explain. Dr. Anstie suggests that it may be due

to the fact that the superior and inferior maxillary nerves are the first of all sensory nerves in the body to exhibit any tendency to pain of a grade approaching to the severity of true neuralgia; and the reason of this is, possibly, the depressing and exhausting influence exerted upon them by the growth of the teeth.

BROMIDE OF SODIUM.—Dr. Meredith Clymer, in *The Medical World* for October, 1871, says there is reason to believe that in this drug a happy substitute for bromide of potassium will be found, better tolerated by the system, and free from the objections urged against the latter. He has habitually used the bromide of sodium for some time past in all disorders of the nervous system where he before ordered the potassic bromide. The dose administered is about the same as that of bromide of potassium. In epilepsy, Dr. M. usually gives twenty grains three times daily. The drug sometimes seems to occasion constipation, and the eruption produced by the potassic bromide also occasionally attends its use; but all the other inconveniences of the latter drug are avoided.

Apropos of the above, we note in the *British Medical Journal* for September 23, 1871, among others some unusual effects of the administration of bromide of potassium. A young lady commenced with fifteen-grain doses, and continued until she was taking forty-five grains three times daily. She suffered, as the result of these large doses, from intense depression of spirits, great bodily weakness, and an eruption of ecthyma. A most offensive fetid odor arose from her breath, so bad that no one could stay in the room with her. Her memory was greatly impaired, and on one or two occasions her mind seemed a perfect blank. All these symptoms subsided on discontinuing the bromide, but at the same time the frequency of her epileptic seizures increased.

INJECTIONS OF LIQUIDS UNDER THE PIA MATER OF THE SPINAL CORD.—Axel Key and G. Retzius (*Centralblatt*, August 19, 1871; from the *Nordisk Medicinsk Arkiv*) have found, in experimenting upon living animals and upon the dead body, that when fluids of different kinds were injected under the pia mater of the spinal cord, the cranium being unopened, they were distributed over the surface of the brain, showing that there is a communication between the sub-arachnoid space of the spinal cord and that of the brain. Another result of the injection was distention of the perivascular canals of His and Arnold. The injection also reached the choroid plexuses, and penetrated to the lateral ventricles, from which it passed through the aqueduct of Sylvius to the fourth ventricle, and sometimes even to the central canal of the cord. The perivascular spaces in the cerebral hemispheres, as well as in the optic thalami, corpora striata, corpora quadrigemina, hippocampus major, etc., were also injected, showing a direct connection between the perivascular spaces and the subarachnoid spaces. In some cases the injection passed from the subarachnoid space into the sinuses of the dura mater, and in a few cases through the veins of the skull into those of the scalp. The Pacchionian bodies were believed to play an important part in the latter cases, for when examined they were distended with the injected fluid, and the experimenters regard them to a certain extent as safety-valves for the subarachnoid space, because, while they permit the fluid of the subarachnoid space to pass through them to the sinus, they oppose an effectual barrier to the return-current of blood.

OVARIO-MANIA.—Dr. Strethill Wright reports in the *Edinburgh Medical Journal* for September, 1871, a case in which mental disorder seemed to be dependent upon cancerous disease of the ovaries. The patient, whose mind was hereditarily predisposed to disorder, was exposed to severe trials of a moral nature. Her principal symptoms were depression of spirits, hallucination of vision, and occasional periods of excitement, during which she averred that her person had been violated. She was relieved of these, but returned to the asylum in very nearly the same condition as before. At this time she entertained numerous unfounded suspicions of her neighbors, who, as she imagined, accused her of having given birth to a child, which she had murdered.

PITTING FROM SMALLPOX.—Dr. Rendle, in a letter to *The Practitioner* for October, recommends the application of cotton-wool to the face and neck of patients suffering with smallpox to

prevent pitting. He says, "I have now two cases convalescent from smallpox in which I applied cotton-wool to protect the face. The disease in each case was of the distinct form. One of the two, a girl, aged fifteen years, had an abundant eruption, which, in the unprotected parts of the body, went through the usual consecutive changes. In both cases the parts covered with the wool are left without a vestige of marks. The mode of application is as follows: On the first appearance of the eruption, patches of skin, about an inch square, were washed over with collodion, and immediately covered over with a thin uniform layer of fine wool; the wool readily adheres if applied before the ether of the collodion evaporates. When the whole of the face, etc. was thus covered, the wool was brushed over with a solution of starch or gum. The starch or gum was occasionally reapplied to the edges of the wool, to prevent any shifting by the movements of the face. This covering was kept on until the dry crust fell off the other parts of the body."

OVARITIS.—Dr. J. Matthews Duncan, in the course of an article contributed to the *Edinburgh Medical Journal* for September, says that, although unable to give a good idea of the frequency of ovaritis, he is convinced that it is a more common disease than is generally supposed. He says that three forms have been described,—1, parenchymatous, 2, follicular, 3, peritoneal,—but that he is unable to see any real distinction between the parenchymatous and the follicular disease, and that the peritoneal form is out of the question, since the ovary has no peritoneal coat. He admits, however, that periophoritis, or inflammation of the adjacent peritoneal membrane, may occasionally occur. Ovaritis may be acute or chronic: the former may terminate in resolution, or its end may be complicated by paraophoric adhesion or abscess, or true ovarian abscess, or it may end in the chronic form of the disease; the latter may last for several years. One ovary may be affected, or both, or the disease may affect the right and the left ovary alternately. The organ may be enlarged to the size of a hen's egg. Ovaritis is only to be made out by physical examination. Palpation of the hypogastric region will reveal a feeling of fulness or tightness over the affected gland. The ovary may often be felt through the vagina, and, when inflamed, it is exquisitely tender, rounded, and more or less enlarged. When the ovary is bound down by adhesion, it may sometimes be difficult to distinguish it from the fundus of a retroflected uterus; but the distinction is generally possible if a uterine sound be used. Ovaritis is more frequently accompanied by too profuse menstruation than by amenorrhœa, is occasionally attended with leucorrhœa, and is not inconsistent with fertility. It is extremely frequent in the newly-married, and in others it may be produced by excessive sexual intercourse. Dr. Duncan does not recommend any peculiar or special treatment.

FATAL SALIVATION FROM BICHLORIDE OF MERCURY.—In a case which is fully reported in the *Lancet* for September 16, Dr. Meeres applied with a small camel's-hair brush a strong alcoholic solution of corrosive sublimate—eighty grains to the ounce—to the head of a child affected with tinea tonsurans. The application gave rise to no pain at the time, but during the ride home, in an open dog-cart, the child suffered severely. Shortly afterwards vomiting and purging came on. Salivation, accompanied by much swelling of the parotid and submaxillary glands, was first observed on the evening of the day after the application, and continued until death took place, apparently from prostration, on the morning of the fifth day.

The verdict of the coroner's jury was "that death was caused by poison from the application of a very strong preparation of bichloride of mercury made to the head and neck by Dr. Meeres," and that "Dr. Meeres is very greatly to be blamed for having made the application."

The lotion applied was from a formula of Dr. Tilbury Fox, and has been used by him in a precisely similar manner in the same disease in very many instances, and this case is the first in which any untoward symptoms have been produced by it.

LETHARGUS.—Dr. Thomas H. Bailey publishes in the *New York Medical World* for October, 1871, an account of this "singular and invariably fatal malady, peculiar to the negroes of certain districts on the western coast of Africa." As im-

plied by the name, the principal and sole symptom is *lethargy*. The patient, usually an adult male, is seized, without premonitory symptoms, with drowsiness, which continues to increase in spite of all efforts to throw it off, until he sinks into a profound and seemingly natural sleep, which continues for about twenty-one days, when death occurs. Throughout the patient preserves a quiet and peaceful countenance, may be easily roused for a short time, will take nourishment, and generally answers a few questions in a rational manner.

The pulse, respiration, and temperature remain normal throughout, the pupil maintains its normal size, and the urine and fæces are regularly voided.

Remedies avail nothing, and post-mortem examinations by competent men reveal no lesion.

CAN CHLOROFORM BE USED TO FACILITATE ROBBERY?—Dr. Stephen Rogers, the President of the New York Medical-Legal Society, in the course of a paper read before the society and published in *The Journal of Psychological Medicine* for October, reaches the conclusion that it would be almost impossible to use chloroform for this purpose. Attempts to chloroformize persons while asleep have generally, if not always, been unsuccessful, not merely on account of the pungent impression of the vapor upon the respiratory membrane, but also because if it be in sufficient concentration to produce anaesthesia within any ordinary period it excites temporary closure of the glottis and arrest of respiration. But, even were this practicable, the very time that would be consumed in the gradual and cautious administration of the vapor—the only possible theoretical manner of accomplishing it—would so increase the danger of detection that few thieves would think of employing it.

The use of chloroform in this way would not be resorted to, because the subject during the process of chloroformization might become turbulent and noisy, and so awake the other inmates of the house. The administration of chloroform by inhalation is also not unattended with danger; and this would prevent those criminals from using it who were unwilling to add the crime of murder to that of robbery. Dr. Rogers regards nineteen in twenty of the cases of alleged felonious use of chloroform as merely fictitious.

A CASE OF PROGRESSIVE MUSCULAR ATROPHY, SIMULATING GLOSSO-LABIO-LARYNGEAL PARALYSIS.—Dr. T. M. B. Cross reports in *The Journal of Psychological Medicine* a case of progressive muscular atrophy beginning in the tongue. The first symptom was want of clearness and distinctness in articulation; this was followed by a tickling sensation in the back part of the buccal cavity, as though the uvula was elongated. A few months later, the patient first began to feel a lack of power in the movements of the tongue, which was especially marked in the act of mastication. He then found he was unable to whistle as proficiently as formerly, and that while he was talking air passed freely through his nose. Next followed a stiffness about the lips and the angles of the lower jaw. About nine weeks after the occurrence of the first symptom he experienced the feeling of worms in the chin; this was followed by fibrillary contraction in the left arm and very great indistinctness of speech. When he came under Dr. Cross's observation, the tongue was very small,—only about two-thirds its normal volume,—and it was constantly agitated by fibrillary contractions. Its movements were very much interfered with, and, while its reflex movements were not impaired, its electric contractility was much affected. The mental faculties of the patient were perfect. The points upon which the diagnosis is based are as follows: The disease commenced in the tongue; there has been a gradual loss of power in this organ in proportion to the amount of atrophy; the affection has extended to other parts, and is now present in both upper extremities; there is an absence of some of the symptoms which ought to be present at this stage in glosso-labio-laryngeal paralysis.

"**TORSION OF ARTERIES.**" says Stromeyer (*British Medical Journal*, September 23, 1871), "has never been so thoroughly tried in the field as by MacCormac, who used it in more than one hundred capital operations with evidently good results, even for the largest arteries." Stromeyer has remained faithful to the ligature.

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MISCELLANY.

INTERNATIONAL COPYRIGHT.—This subject appears again to be exciting much attention in England, and Mr. Erichsen, the distinguished surgeon, who thinks that he has been a special sufferer by the freedom with which English books are reprinted in this country, has sent to the *London Times* a copy of a letter which he addressed during the civil war to our minister in London, Mr. Adams. The letter itself is rather long; but its gist is contained in the following paragraph, which we take from the *Medical Times and Gazette* of October 14:

"In the American civil war the American government furnished the medical staff of the army with 58,074 volumes of medical works. The two principal items on the list were Mr. Erichsen's 'Principles of Surgery' (5370 copies) and Bumstead on 'Venereal Diseases.' These copies of Erichsen's 'Surgery' were not one of them supplied by the publishers of that work in this country; they were, in fact, an American pirated edition, and a robbery of Mr. Erichsen to the amount of from £2800 to £3000. Mr. Erichsen wrote a most courteous letter, stating the facts of the case to Mr. Adams, the Minister of the United States in this country, and received a reply, in which the minister said he had great pleasure in transmitting Mr. Erichsen's letter to America. He added, 'The question of international copyright is one which has been already much discussed in America, but I doubt whether the period for successful negotiation about it has as yet arrived.' This is certainly an argument in point. There the matter has been allowed to remain for the five years that have elapsed since the correspondence. No answer has been returned from the American government. Meanwhile Mr. Erichsen has the barren satisfaction of knowing how highly his work on Surgery is esteemed in America."

Although Mr. Erichsen has certainly suffered from the want of an international copyright law, which also affects American surgeons, the large sale of his book in this country is due in some measure at least to the fact that it can be published at a lower price than the works of native authors.

CHANGE IN THE NAVAL BUREAU.—Dr. W. M. Wood has resigned the position of Chief of the Bureau of Medicine and Surgery, U.S.N., and Dr. Jonathan M. Foltz has been appointed in his place.

THE WEATHER DURING OCTOBER.—The mean temperature of the month was 57.87 degrees, while that of October, 1870, was 60.13 degrees, that of October, 1869, 52.5, and that of October, 1868, 54.08. The highest point attained by the mercury during the past month was 78 degrees, on the 11th inst., and the lowest 37 degrees, on the 30th, giving a range of 41 degrees; while the highest point reached in October, last year, was 80 degrees, the lowest 39.5 degrees, giving a range of 40.5 degrees. The average of the mean temperatures of October for the past 82 years is 54.71 degrees. The highest mean on record for the month was 64 degrees, in the year 1793, and the lowest 46 degrees, in 1827. The total rain-fall for the month was 4.86 inches, compared with 3.90 inches in October of 1870, and 6.32 inches during that month of 1869. The average rain-fall for the month of October, for the past 34 years, is 3.28 inches.

THE EPIDEMIC OF SMALLPOX IN PHILADELPHIA.—Such exaggerated rumors have been in circulation in this and other cities in reference to the extent and severity of the present epidemic of smallpox, that we are very glad that the Board of Health have made a report as to the prevalence of the disease. From this we learn that up to the 4th of November there were

during the present year 2168 cases and 378 deaths from smallpox. Most of these cases occurred, it is true, during the month of October; but the numbers are really inconsiderable when we take into consideration the population of the city, and show that the statements in the newspapers in other cities have been gross exaggerations.

THE number of deaths from smallpox in Philadelphia for the weeks ending October 28 and November 4 were respectively 84 and 95.

BEQUEST.—E. W. Houghton, Esq., has given \$10,000 to Dartmouth Medical College to establish a museum of pathological anatomy.

APPOINTMENTS.—The following appointments have recently been made in connection with the Harvard Medical School: James C. White, M.D., has been appointed Professor of Dermatology; George Henry Derby, M.D., Professor of Hygiene; Henry W. Williams, M.D., Professor of Ophthalmology; and John E. Tyler, M.D., Professor of Mental Diseases. J. Nelson Borland, M.D., has been appointed Instructor in Clinical Medicine; Clarence J. Blake, M.D., and John O. Green, M.D., Lecturers on Otology for the current academic year; and Henry K. Olliver, M.D., Lecturer on Laryngoscopy for the same period. Dr. W. L. Richardson has been appointed Instructor in Obstetrics in this same institution.

Mr. Haviland, author of the "Lectures on Medical Geography," has been chosen to succeed Dr. Ballard as Medical Officer of Health for Islington.

Prof. W. W. Dawson has been appointed to succeed the late Dr. Blackman in the Chair of Surgery at the Medical College of Ohio.

Mr. Henry Alleyne Nicholson, late Lecturer on Natural History in the Medical School of Edinburgh, has been appointed Professor of Natural History in the University of Toronto, Canada.

PROF. KARSTEN, OF VIENNA.—Some months ago we described in these columns the unfortunate difficulty between the learned professor of botany and the students of the University of Vienna, which grew out of the very rigorous examinations of the former. We learn from a recent letter from Vienna to the *London Lancet* that after these events Prof. K. was temporarily suspended, both as professor and examiner, in the Vienna faculty; but immediately after the interview at Gastein the Austrian Minister of Public Instruction fully restored Dr. Karsten to his former position, notwithstanding the opposition of the College of Professors and of the Consistorium. The students, therefore, are again preparing to put in a protest in their own way, and are rather amazed at the obstinacy of the professor and his "toughness of skin."

SICK WOMEN UNCARED FOR IN TURKEY.—No special hospital for women exists in the Turkish Empire; not even a general one, where a sick Moslem woman can be nursed. During the cholera epidemic of 1865, so numerous and so heartrending were the scenes of misery and neglect, that the Sublime Porte was forced by public—that is, European—opinion to vacate temporarily a building for the female sufferers from this scourge. The want of such a shelter being felt, the foundations of a small hospital were shortly afterwards laid; but, through lack of funds, nothing further was done. In the March issue of the *Gazette Medicale d'Orient*, the editor complains that two millions of dollars are promptly

forthcoming for a useless iron-clad, but not the few thousand piastres necessary to put this building in working-order.

ILL-ADVISED PATRIOTISM.—Hitherto, at the Imperial Medical School of Constantinople, the lectures and text-books have been in the French language; but the Sultan, with more patriotism than wisdom, has recently issued an order that the Turkish language is in future to be exclusively used. As this Tartar hybrid is not rich in medical literature, and is not sufficiently flexible for technical terms and scientific precision, all the European physicians at Constantinople are prophesying the decadence of medicine in the East. The same patriotic experiment was tried at the once-flourishing Pesth University, but since the introduction of the Hungarian language—also a Tartar dialect—that school has, according to M. Jaccoud, rapidly declined in reputation and usefulness.

BILLS OF MORTALITY.—We have read with interest, in the New York *Medical Record* for September 1, 1871, an admirable paper by Prof. Samuel Henry Dickson, of this city, on "Bills of Mortality." It is suggested by the recent report of the Philadelphia Board of Health, and is too long to extract entire, while it would lose much of its force by being condensed. Some valuable suggestions are made, which should be disseminated and promptly acted upon. One or two of these we reprint. Thus, after quoting from a letter by Dr. J. H. Taylor, Physician-in-Charge of the "Municipal Hospital" near Philadelphia, that out of 246 whites admitted with relapsing fever but 4 died, or 1 in 60½, and that of 244 colored 62 died, or 1 in 3½, he says,—

"It is not easy to explain this prodigious difference in proportional mortality. Negroes do not die *thus* of yellow fever, nor of scarlatina, nor diphtheria.

"The colored hybrid is farther removed from the black than from the white, as Knight has shown that in all hybridism the better element prevails and raises the product more than half-way. It is to be regretted that this distinction is so generally ignored, and that all who are of the lower race are spoken of under one head. A *mulatto* is, in all grades, essentially *not a negro*. He has acquired, by birth and blood, peculiarities which expose him specially, and specially protect him. He is as liable as his white progenitor to malarial fevers and to yellow fever, and dies as readily of scarlatina and diphtheria. I am curious to know where he stands as to the proclivity of his dark ancestor to the access of relapsing fever, and his promptness to sink under its attack."

Again, after quoting this significant statement from a letter of Dr. Goodman, the Port Physician,—*"I have seen several deaths from want of knowledge how to get destitute sick into the Almshouse for treatment; some have been so sent from post to pillar, endeavoring to obtain admission, that I have finally sent them to the Hospital for Contagious Diseases, to save them from starvation and death!"*—he says, truly,—

"It is rare to find a hospital founded on true philanthropic principles. Such a one was the 'Roper Hospital,' of Charleston, South Carolina, of which the fundamental rule was that a sick patient was to be at once received and taken care of,—without question, without delay. No matter whether young or old, black or white or yellow, rich or poor, free or slave,—and it was in a slave State, before emancipation was anything but a dream,—he was detained no longer than to ascertain the existence of real, not feigned, disease. In every city on the globe there should be at least one such institution, which should serve as a home for the utterly friendless when ill, and at least as a temporary refuge for those who require time to procure the 'orders' and 'certificates' ultimately within their reach, but not immediately accessible in their

hour of need. These may be finally disposed of elsewhere as privileged."

We wish we had space to quote more freely remarks on average mortality, the proportion of infant deaths, careless returns of births, more effectual means of *cooling* habitations in summer, relapsing fever, defective nomenclature of bills of mortality, yellow fever, scarlatina, and pneumonia, but must refer our readers for further details to the number of the New York *Medical Record* above specified.

SUICIDES IN FRANCE.—The suicides that occurred in France in 1869 numbered 5114, against 5547 in 1868. Of the former, 4113, or about four-fifths, were males, and 1001 females. With regard to the age of the persons who destroyed themselves, 37 were under sixteen, and 1432 over sixty. Among the causes attributed, poverty was assigned 474 cases; family troubles, 571; love and jealousy, 222; insanity, 1516; physical suffering, 591; intoxication, 661; and crime, 26.

A PRACTICAL JOKE.—A prominent physician in New York was somewhat annoyed to observe tacked to his office-door, the other morning, a tin sign (evidently transferred by some jester from a barber-shop), which read, "Gentlemen wishing Dying done should apply within."

MORTALITY OF PHILADELPHIA.—The following reports are condensed from the records at the Health Office:

| | For the week ending | |
|---|---------------------|------------|
| | Oct. 28. | Nov. 4. |
| Consumption | 40 | 36 |
| Other Diseases of Respiratory Organs | 23 | 26 |
| Diseases of Organs of Circulation | 13 | 17 |
| Diseases of Brain and Nervous System | 36 | 32 |
| Diseases of the Digestive Organs | 27 | 22 |
| Diseases of the Genito-Urinary Organs | 8 | 6 |
| Zymotic Diseases | 109 | 111 |
| Cancer | 7 | 4 |
| Casualties | 8 | 9 |
| Debility | 20 | 22 |
| Intemperance | 1 | 3 |
| Murder | 1 | 1 |
| Old Age | 7 | 7 |
| Stillborn | 16 | 18 |
| Scrofula | 1 | 1 |
| Suicide | 1 | 1 |
| Syphilis | 1 | 0 |
| Tetanus | 1 | 1 |
| Tumors | 1 | 0 |
| Unclassifiable | 7 | 6 |
| Unknown | 1 | 1 |
| Totals | 329 | 325 |
| Adults | 174 | 161 |
| Minors | 155 | 164 |

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM OCTOBER 19, 1871, TO NOVEMBER 4, 1871, INCLUSIVE.

McKEE, J. C., SURGEON.—By S. O. 223, Department of the East, October 18, 1871, granted leave of absence for thirty days on surgeon's certificate of disability.

TILTON, H. R., ASSISTANT-SURGEON.—By S. O. 223, current series, Department of the East, assigned to temporary duty at Fort Worth, N.Y.H., and to rejoin his proper station on return of Surgeon McKee.

MACKIN, CHAS., ASSISTANT-SURGEON.—By S. O. 81, Headquarters Military Division of the Missouri, November 1, 1871, granted leave of absence for sixty days.

HALL, J. D., ASSISTANT-SURGEON.—By S. O. 232, Department of the West, October 21, 1871, assigned to duty at Fort Benton, Montana Territory.

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